

FUTURE OF WATER RESOURCE DEVELOPMENT IN SOUTH DAKOTA

HEARING BEFORE THE SUBCOMMITTEE ON WATER AND POWER OF THE COMMITTEE ON ENERGY AND NATURAL RESOURCES UNITED STATES SENATE NINETY-SEVENTH CONGRESS

FIRST SESSION

ON

S. 1553

**A BILL TO AUTHORIZE THE SECRETARY OF THE INTERIOR
TO PROCEED WITH DEVELOPMENT OF THE WEB PIPELINE,
TO PROVIDE FOR THE STUDY OF SOUTH DAKOTA WATER
PROJECTS TO BE DEVELOPED IN LIEU OF THE OAHE AND
POLLOCK-HERREID IRRIGATION PROJECTS, AND TO MAKE
AVAILABLE MISSOURI BASIN PUMPING POWER TO PROJECTS
AUTHORIZED BY THE FLOOD CONTROL ACT OF 1944 TO RE-
CEIVE SUCH POWER**

PIERRE, S. DAK., SEPTEMBER 12, 1981

Publication No. 97-46



**Printed for the use of the
Committee on Energy and Natural Resources**

**U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON : 1981**

COMMITTEE ON ENERGY AND NATURAL RESOURCES

JAMES A. McCLURE, Idaho, *Chairman*

MARK O. HATFIELD, Oregon
LOWELL P. WEICKER, Jr., Connecticut
PETE V. DOMENICI, New Mexico
MALCOLM WALLOP, Wyoming
JOHN W. WARNER, Virginia
GORDON J. HUMPHREY, New Hampshire
FRANK H. MURKOWSKI, Alaska
DON NICKLES, Oklahoma
JOHN P. EAST, North Carolina
JOHN HEINZ, Pennsylvania

HENRY M. JACKSON, Washington
J. BENNETT JOHNSTON, Louisiana
DALE BUMPERS, Arkansas
WENDELL H. FORD, Kentucky
HOWARD M. METZENBAUM, Ohio
SPARK M. MATSUNAGA, Hawaii
JOHN MELCHER, Montana
PAUL E. TSONGAS, Massachusetts
BILL BRADLEY, New Jersey

MICHAEL D. HATHAWAY, *Staff Director*

CHARLES A. TRABANDT, *Chief Counsel*

D. MICHAEL HARVEY, *Chief Counsel for the Minority*

SUBCOMMITTEE ON WATER AND POWER

FRANK H. MURKOWSKI, Alaska, *Chairman*

MARK O. HATFIELD, Oregon
LOWELL P. WEICKER, Jr., Connecticut
MALCOLM WALLOP, Wyoming
DON NICKLES, Oklahoma

JOHN MELCHER, Montana
WENDELL H. FORD, Kentucky
PAUL E. TSONGAS, Massachusetts
BILL BRADLEY, New Jersey

JAMES A. McCLURE and **HENRY M. JACKSON** are *Ex Officio* Members of the Subcommittee

RUSSELL R. BROWN, *Professional Staff Member*

CONTENTS

S. 1553.....	Page 2
STATEMENTS	
Abdnor Hon. James, a U.S. Senator from the State of South Dakota.....	7
Albright, Ted, Blunt, S. Dak.....	631, 634
Barber, Don, manager, Lower James Conservancy Subdistrict, Mitchell, S. Dak.....	155
Bauman, Curtis, Beadle County CENDAK water user.....	245
Bell, Jim, on behalf of the South Dakota Chamber of Commerce.....	530, 532
Braun, Raymond chairman, James River Flood Control Association, Mellette, S. Dak.....	255
Briggs, Earl, Pierre, S. Dak.....	665, 667
Chesnick, Earl, president, James Basin Water Development Associa- tion, Redfield, S. Dak.....	303, 305
Deiter, Douglas, Faulk CENDAK water users.....	243
Dixon, Frank, West Brown Irrigation District.....	369
Duncanson, Ray, mayor, Pierre, S. Dak.....	167
Edie, Esther R., chairwoman, South Dakota Resources Coalition.....	537, 539
Eldredge, Marland C., vice chairman, WEB Water Development Associa- tion, Inc., Ashton, S. Dak.....	169, 171
Elsing, John, farmer, Mansfield, S. Dak.....	594, 596
Erikson, Clarence, farmer, Groton, S. Dak.....	715, 717
Faulstich, Don, chairman, Hyde County Water Association.....	233, 235
Fischbach, Art, chairman, Spink County Irrigation District Board of Directors.....	321, 323
Fischbach, Tom, president, United Family Farmers, Aberdeen S. Dak.....	371
Frankenstein, Ron, member of the Oahe Conservancy Subdistrict Board of Directors.....	126, 129
Gardeman, Lyle, manager, Fort Randall Conservancy Subdistrict, Lake Andes.....	166
Glasgow, Ed., manager-treasurer, Black Hills Conservancy Subdistrict, Rapid City, S. Dak.....	168
Greenway, Tom, member, Lower James Conservancy Subdistrict, Mitchell, S. Dak.....	158
Gullickson, Chester, Bath, S. Dak.....	319
Hargens, Dale, member of the Oahe Conservancy Subdistrict Board of Directors.....	132
Hauschild, Dave, president, CENDAK water supply system.....	223, 225
Haven, Dennis, vice chairman, Spink County Irrigation District.....	348
Heart, Carol Ann, Rosebud Sioux Tribe.....	509
Helmer, Robert, chairman, South Dakota Board of Water and Natural Resources.....	39, 41
Huber, Oscar, subscriber, WEB Water Development Association.....	203
Ickes, R. Dennis, general counsel, on behalf of the United Sioux Tribe of South Dakota Development Corp.....	457, 460, 511, 513
Jacobson, Olaf, member, Lower James Conservancy Subdistrict, Mitchell, S. Dak.....	157
Janklow, Hon. William, Governor, State of South Dakota.....	151
Jones, Hon. Kenneth, former State senator, Yankton, S. Dak.....	11, 12
Kayser, Father Leonard, acting director, National Catholic Rural Life Conference.....	552, 554
Kinsella, Steve, executive director, United Family Farmers, Inc.....	398, 400
Kleinsasser, John, Frankfurt, S. Dak.....	311, 312
Knobe, Rick, mayor, city of Sioux Falls, S. Dak.....	253
Kurth, Dale, chairman, Brown-Day-Marshall Rural Water System.....	573, 574
Locken, Virgil, Bath, S. Dak.....	371

IV

Marsh, Kenneth, member of the Oahe Conservancy Subdistrict Board of Directors.....	Page 133
Masat, Roger, Southwest Spink Water Development Association.....	244
McKeown, Mrs. Gordon, Catholic Rural Life Board.....	556, 557
Murkowski, Hon. Frank H., a U.S. Senator from the State of Alaska.....	1
Naessig, Leonard, vice chairman, Oahe Conservancy Subdistrict Board of Directors.....	71, 73
Neufeld, Warren R., secretary, South Dakota Department of Water and Natural Resources.....	14, 17
Oliver, William, chairman, West Brown Irrigation District Board of Directors.....	348, 350
Olson, Ken, Jr., Turton, S. Dak.....	619, 621
Overby, Glenn, Mellette, S. Dak.....	700, 702
Patitz, Patricia L., executive director, South Dakota Water Congress.....	524, 526
Philbrick, Robert, Crow Creek Sioux.....	508
Piper, George, United Family Farmers, Inc.....	410, 412
Poindexter, Jerry, CENDAK Steering Committee.....	241, 242
Pressler, Hon. Larry, a U.S. Senator from the State of South Dakota.....	160, 163
Roberts, Hon. Clint, a U.S. Representative from the State of South Dakota.....	142, 144
Rogers, Darla, attorney, Onida, S. Dak.....	678, 680
Rowland, Earl, president, Missouri River Bank Stabilization Association.....	572
Runge, Royal, Blunt, S. Dak.....	657, 658
Sanford, David, South Dakota Chapter, Wildlife Society, Brookings, S. Dak.....	551
Schuelke, Robert E., president, Brown County Farm Bureau.....	577, 578
Schuller, George, director, Lower Crow Creek Watershed, Claremont, S. Dak.....	296
Schuller, Roger, Claremont, S. Dak.....	581, 583
Schurr, Arnold, secretary, Oahe Conservancy Subdistrict Board of Directors.....	97, 100
Seaton, Harold, S. & S. Farm Corp.....	686, 689
Shanard, Hon. George, State senator, Mitchell, S. Dak.....	9
Siegel, Jerry, manager, East Dakota Conservancy Subdistrict, Brookings, N. Dak.....	254
Sieh, John, chairman, Oahe Conservancy Subdistrict Board of Directors, Aberdeen, S. Dak.....	46 50
Sieh, Roland W., farmer, James River Valley, Bath, S. Dak.....	310
Silverstein, Alan, president, Huron Chamber of Commerce, Huron, S. Dak.....	535
Skye, Clarence, executive director, United Sioux Tribes.....	508
Stuck, Lauren, treasurer, the United Family Farmers.....	373, 376
Tobin, Paul F., mayor, city of Mitchell, S. Dak.....	247, 248
Tschetter, Brad, Huron, S. Dak.....	618
Waldner, David, Mitchell, S. Dak.....	159
Wernke, Cathy, projects coordinator, Landing Creek pipeline project and Whestone Pipeline Irrigation District.....	559, 561
Wessel, Irving, member of the Oahe Conservancy Subdistrict Board of Directors.....	141
Wheeler, Ron, president, Huron Area Chamber of Commerce.....	536
Wilkins, Keith, farmer, Mansfield, S. Dak.....	685
Wilson, Norman, chairman, Rosebud Sioux Tribe.....	521
Woster, Frank, president, Lyman-Jones Water Development Association.....	564, 567
Yexley, Terry, secretary, board of directors, Clark Rural Water System, Clark, S. Dak.....	564
Yoder, Bob, treasurer, WEB Water Development Association.....	202
Young, James, chairman, James River Watershed District Board of Managers, Warner, S. Dak.....	295
Zemlicka, Mae, WEB Water Development Association, Aberdeen, S. Dak.....	213, 215

APPENDIX

Additional statements and communications submitted for the record.....	781
--	-----

FUTURE OF WATER RESOURCE DEVELOPMENT IN SOUTH DAKOTA

SATURDAY, SEPTEMBER 12, 1981

U.S. SENATE,
SUBCOMMITTEE ON WATER AND POWER,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Pierre, S. Dak.

The subcommittee met, pursuant to notice, at the city auditorium, Pierre, S. Dak., Hon. Frank M. Murkowski, presiding.

Present: Senators Murkowski and Abdnor.

Also present: Russell R. Brown, professional staff member.

OPENING STATEMENT OF HON. FRANK H. MURKOWSKI, A U.S. SENATOR FROM THE STATE OF ALASKA

Senator MURKOWSKI. Good morning, ladies and gentlemen. I am Frank H. Murkowski, chairman of the Subcommittee on Water and Power, of the Senate Committee on Energy and Natural Resources. I would like to welcome you to today's hearing on S. 1553, legislation introduced by Senators Abdnor and Pressler, and relating to the future of water resource development in South Dakota.

As you have observed, we have a rather heavy witness schedule today and some pretty hard seats, which I share with you. I am going to ask, therefore, that you please limit your time before the subcommittee to approximately 5 minutes per person. I would like to assure you that your written statements will be given full consideration and the hearing record will remain open for 2 weeks for those who may wish to submit statements.

I would hope that the brevity of my remarks will serve as a guide to those about to testify. I do not want to impose a time limit, but in view of the crowd, I see that, as I have indicated previously, we are going to have to.

So with that, we will proceed with the formal hearing, and I insert the text of S. 1553 and call on my colleague, Senator Abdnor.

[The text of S. 1553 follows:]

(1)

97TH CONGRESS
1ST SESSION

S. 1553

To authorize the Secretary of the Interior to proceed with development of the WEB pipeline, to provide for the study of South Dakota water projects to be developed in lieu of the Oahe and Pollock-Herreid irrigation projects, and to make available Missouri basin pumping power to projects authorized by the Flood Control Act of 1944 to receive such power.

IN THE SENATE OF THE UNITED STATES

JULY 30 (legislative day, JULY 8), 1981

Mr. ABDNOR (for himself and Mr. PRESSLER) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

A BILL

To authorize the Secretary of the Interior to proceed with development of the WEB pipeline, to provide for the study of South Dakota water projects to be developed in lieu of the Oahe and Pollock-Herreid irrigation projects, and to make available Missouri basin pumping power to projects authorized by the Flood Control Act of 1944 to receive such power.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

1 That (a) the WEB rural water development project, author-
2 ized by section 9 of Public Law 96-355, is reauthorized.

3 (b) The Secretary of the Interior (hereinafter referred to
4 as the "Secretary") is directed to proceed with the develop-
5 ment of the WEB rural water development project, consist-
6 ent with the terms of section 9(e) of Public Law 96-355, and
7 to make available for immediate obligation any funds appro-
8 priated for such project for fiscal year 1981, except that such
9 funds shall be made available directly to the WEB Associ-
10 ation and shall not be transferred to the Department of Agri-
11 culture.

12 SEC. 2. (a) The Secretary is authorized, in cooperation
13 with the State of South Dakota, to conduct a study pursuant
14 to this Act which shall include consideration of—

15 (1) alternate uses of facilities constructed for use
16 in conjunction with the Oahe unit, initial stage, James
17 division, Pick-Sloan Missouri River basin program,
18 South Dakota;

19 (2) future uses in South Dakota of water delivered
20 by the Garrison unit, Pick-Sloan Missouri River basin
21 program, North Dakota;

22 (3) a modified plan of development for the Pol-
23 lock-Herreid unit, South Dakota pumping division,
24 Pick-Sloan Missouri River basin program, South

1 Dakota, including alternative lands or reduced acre-
2 ages; and

3 (4) the potential for development of any other
4 water project or projects proposed by the Governor of
5 the State of South Dakota, in accordance with the
6 policies and priorities of the State, which the Secretary
7 determines may qualify for Federal construction fund-
8 ing under the terms of this section.

9 (b) In formulating his recommendations to Congress the
10 Secretary shall take into account the land inundated in South
11 Dakota under the Pick-Sloan Missouri basin program and the
12 irrigation development authorized for South Dakota by the
13 Flood Control Act of 1944. In determining the feasibility of
14 projects proposed by the State under this section the Secre-
15 tary shall use criteria no less favorable than those under
16 which the Oahe unit, initial stage, was authorized, except
17 that the Secretary may use other criteria with the consent of
18 the State.

19 (c) The Secretary shall report to Congress the findings
20 of the studies, along with his recommendations for disposition
21 of the Oahe unit, initial stage, for development of the Pol-
22 lock-Herreid unit, and for Federal involvement in other
23 projects proposed by the State.

24 (d) The Secretary may contract with the State to carry
25 out the studies authorized by this section.

1 (e) The studies performed and the reports made under
2 this section shall be of reconnaissance, appraisal, or feasibility
3 grade as is appropriate to determine whether further action
4 on the development of the Secretary's recommendations is
5 warranted.

6 SEC. 3. (a) The Secretary is authorized to cancel the
7 master contract and participating and security contracts for
8 the Oahe unit, initial stage, and to release any and all funds
9 accumulated by the Oahe conservancy subdistrict under the
10 master contract.

11 (b) Those features of the authorized plan of development
12 for the Oahe unit, initial stage, which were designed for and
13 could be used only to deliver irrigation water to the Spink
14 and West Brown irrigation districts shall not be constructed
15 by the Secretary, but nothing in this Act shall be deemed to
16 limit the authority of the Secretary to recommend develop-
17 ment of other features, based upon the study authorized by
18 section 2(a)(1) of this Act.

19 SEC. 4. The Secretary of the Interior, in cooperation
20 with the Department of Energy, is authorized to make avail-
21 able the Missouri River basin program pumping power to irri-
22 gation projects constructed in South Dakota by Indian tribes
23 or by public entities organized under State law and which
24 have been authorized by the Flood Control Act of 1944 to
25 receive such power. Such power shall be made available at

1 the request of the State of South Dakota or an Indian tribe,
2 regardless of the source of construction funding for such irri-
3 gation projects.

4 SEC. 5. There are authorized to be appropriated
5 \$ to carry out the provisions of this Act.

**STATEMENT OF HON. JAMES ABDNOR, A U.S. SENATOR FROM THE
STATE OF SOUTH DAKOTA**

Senator ABDNOR. First of all, Mr. Chairman, I want to welcome you to our great State this morning, and thank you very much for coming. I know you just returned to Washington from Alaska and unpacked and had to turn around and come back here yesterday. I certainly appreciate it.

I am also aware of the fact that is one of the few hearings you are holding out in the field, at least in the first year of the session. So we are very grateful to you for giving us this opportunity.

As you can see by the length of the witness list, water development is a very, very big issue to South Dakotans. It has also been a controversial issue on which there are many, many differing points of view.

In Senate bill 1553 and its counterpart in the House, H.R. 4347, however, the South Dakota congressional delegation has attempted to focus on the points of agreement in a realistic legislative package which can be enacted without undue delay. We have worked very hard to develop this proposal in a fashion which is acceptable to all concerned.

We have consulted closely with officials of the Departments of Agriculture and Interior, as well as the Office of Management and Budget, and are pleased that the administration is generally supportive of our efforts.

In that regard, I would like to have unanimous consent to enter into the record a September 8th letter I received from OMB Director Stockman in support of Senate bill 1553, and I would also like to submit into the record a letter I have from Secretary Jim Watt sent to me on July 8. So with your approval, I would submit those for the record.

Senator MURKOWSKI. Without objection, so ordered.

Senator ABDNOR. And, particularly, it should be noted in the Stockman letter that the Reagan administration does not consider deauthorization of the Oahe Unit to be necessary at this time. The administration supports reauthorization of WEB, as provided by S. 1553, as well as studies of Cendak in the Garrison Extension.

I am sure, Mr. Chairman, that working with you and the subcommittee staff, we can iron out the reservations Director Stockman has expressed over other portions of the bill.

In the interests of time, I will not go into a detailed explanation or a justification of S. 1553, but excerpts from the July 30 Congressional Record containing my remarks accompanying introduction of the bill are available to the committee and to anyone in the audience who is interested in some of the background of the bill.

In summary, Mr. Chairman, we strongly urge and sincerely hope that WEB can go forward without delay. We believe that consistent with the commitment made by the previous administration, other South Dakota water development needs need to be considered as provided for in S. 1553.

We feel very strongly that the commitment made to our State of the Pick-Sloan Missouri River program should not be forgotten. Our sacrifice of over 500,000 acres was too great to let bygones be bygones, and our water development potentials are too great to ignore.

Briefly speaking, that is what S. 1553 is all about. I look forward to hearing the testimony today, and to building a strong record in support of the enactment of the bill.

Thank you, Mr. Chairman, and again, welcome to South Dakota. [The letters submitted by Senator Abdnor follow:]

OFFICE OF MANAGEMENT AND BUDGET,
Washington, D.C., September 8, 1981.

HON. JAMES ABDNOR,
U.S. Senate,
Washington, D.C.

DEAR JIM: Over the past few months, you, Governor Janklow, and other South Dakota leaders have worked with Secretary Watt and other Administration representatives to devise sound plans for developing and managing your State's water resources. I am pleased with the progress we have made, and deeply appreciate the spirit of cooperation which has been evident throughout our discussions.

Before the Congress holds hearings on S. 1553, and on Congressman Roberts' companion bill, H.R. 4347, I want to confirm the Administration's agreement on the authorization of the WEB pipeline and to give you our general thoughts on other issues raised by your bills. Detailed comments will follow, as usual, in agency testimony and legislative reports.

We would have no objection to the reauthorization of the WEB Pipeline as proposed in S. 1553/H.R. 4347. For the reasons you and I have discussed, we also believe the deauthorization of the Oahe Unit is not a necessary precondition for our support of WEB Pipeline authorization.

I want to reiterate the Administration's willingness to support planning studies aimed at meeting other water development needs in South Dakota, including appraisal level studies of alternatives to Oahe and of the Garrison extension. However, I am concerned about the open-ended study authorization in S. 1553/H.R. 4347, and urge you to continue to work with the Department of the Interior to come up with a specific set of study proposals.

Section 2 of the bills also states that criteria "no less favorable than those under which the Oahe unit, initial stage, was authorized" shall be used in evaluating the feasibility of any projects resulting from studies authorized by the bills, unless the State agrees to others. The Oahe unit was formulated under economic and social conditions different from those that prevail in the 1980's. For example, a discount rate of 3¼ percent for computing present value of costs and benefits is clearly inappropriate today. While we all recognize South Dakota's special situation, I believe it would be unwise to use outdated standards and procedures to develop water projects to satisfy the needs of the future.

With respect to Section 3, I sympathize with the desire of Oahe area landowners to be released from their repayment contracts if the project is not completed. However, the Federal Government has invested over \$40 million in Oahe facilities. I want to be sure that, if we can find an alternate use for those parts of Oahe already built, this Federal investment will be repaid as reclamation law requires. If Section 3 were modified to include a guarantee that the costs of the Oahe investment to date would be treated as part of the costs of any alternate project using Oahe facilities—for the purposes of repayment—then we would have no objection to the termination of the contracts. I encourage you to work with the Department of the Interior on suitable language. We are of course very interested in any proposals you might have that would ensure a return from the extensive Federal investment in Oahe facilities.

Interior is still studying the effects Section 4 would have on the Missouri Basin power system, and we hope to have more extensive comments later in the month. For now, I want to express my concern that providing low-cost pumping power to additional users may worsen the financial condition of the power system and set an undesirable precedent in the Missouri Basin.

As your proposals move through the Congress, we look forward to working with you on the final details of the water resources program for which South Dakota has waited so long.

Sincerely,

DAVID A. STOCKMAN,
Director.

U.S. DEPARTMENT OF THE INTERIOR,
Washington, D.C., July 10, 1981.

Hon. JAMES ABDNOR,
U.S. Senate,
Washington, D.C.

DEAR JIM: This is in response to the letter of April 22 signed by you and the other members of the South Dakota delegation concerning the \$1.9 million of fiscal year 1981 funding for the WEB Pipeline Project (WEB) in South Dakota.

The Appropriations Committee of Congress, in their deliberations on a combination of general supplementals and rescissions in the fiscal year 1981 budget, directed that the \$1.9 million for WEB be deferred until the Oahe Unit has been deauthorized. Further, the Committees directed that the project be reauthorized through the Farmers Home Administration and that appropriations be authorized to be made to that organization. Although this action has not affected the Department of the Interior's support for WEB, we are deferring obligation of the funds until these conditions are met.

With regard to other matters of mutual interest, we recognize that the deauthorization of the Oahe Unit is a matter best left to the Congress to decide, but we do not intend to ask for construction appropriations if it is not deauthorized. In addition, we are not opposed to undertaking new studies for South Dakota water resources development, including CENDAK and Governor Janklow's proposal to irrigate 100,000 acres in the James River Basin from the Garrison Diversion Unit.

We look forward to working with you on those matters.

Sincerely,

JAMES G. WATT,
Secretary.

Senator MURKOWSKI. Thank you, Senator Abdnor, and it's certainly a pleasure to be here. I guess my only regret is that it is a necessity.

With that, we'll move on to the witness list. We are proceeding from the top of the list, although there are a few dignitaries that are not here at this time. We believe it would be therefore appropriate to call on the Honorable George Shanard, State senator from Mitchell, accompanied by Mr. Kenneth Jones. I think that constitutes that portion of the panel.

Gentlemen, would you care to come up to the witness table?
Please proceed, Mr. Shanard.

**STATEMENT OF HON. GEORGE SHANARD, STATE SENATOR,
MITCHELL, S. DAK.**

Senator SHANARD. Thank you, Mr. Chairman.

Senator Abdnor, Chairman Murkowski, other members of your committee, first of all, may I, sir, welcome you to South Dakota.

Senator MURKOWSKI. Thank you.

Senator SHANARD. I am George Shanard of Mitchell, State senator from the 17th legislative district. I would like to, first of all, express my appreciation for the effort that you have made, sir, in bringing these hearings to South Dakota. This action provides an opportunity for South Dakotans to express their views on this vitally important issue directly to the committee. Believe me when I say on behalf of all South Dakotans, that this is truly appreciated.

In an effort to allow as much testimony as possible, my remarks will be brief.

We support Senate bill 1553. Water development assistance for South Dakota is something that has been promised to us for a long, long time. I believe the Federal Government has a moral obligation to assist in this development.

South Dakotans sacrificed, as Senator Abdnor pointed out a moment ago, about 537,000 acres of land for construction and resulting impoundments of the Missouri River mainstem dams. The Flood Control Act of 1944 outlined a plan to provide beneficial use for these impoundments. And unfortunately, we feel that most of the benefits from those impoundments have gone to downstream States.

We in South Dakota are still waiting for that beneficial use. South Dakota is the most agricultural State in the Nation. Our economy is dependent upon agriculture, and irrigation development will vitally stabilize and insure the long-term economic growth of this great region of the Nation.

An important part of irrigation development for South Dakota was to be the Oahe unit. Problems at the local, State, and Federal level have caused this project to become a target for deauthorization and removal from the Pick-Sloan program. Senate bill 1553 is an acceptable resolution of the problems associated with the Oahe unit.

The WEB pipeline project identified in section 1 is one of the South Dakota water priorities outlined by the Governor and the Legislature of South Dakota. The project will provide water for rural, domestic, livestock, and municipal use.

Section 2 outlines steps that need to be taken to provide water for irrigation in the central portion of the State.

The Governor's water program has several components that would be served by this section. The lower James and Fort Randall Conservancy Subdistricts have also identified potential irrigation projects that could be incorporated into the partially constructed Oahe delivery system. It is believed that certain features of the Oahe unit may be required to bring water into the James River basin. Further appraisal is needed on this issue.

Section 2(a) is of vital importance to the identification of water development projects for South Dakota. New irrigation technology has increased the amount of potentially irrigable land in the State. This technology must be considered when project feasibility is determined. Many marginal areas that were previously rejected may now be suitable for irrigation. Reappraisal is needed.

Section 4 of the bill provides for low-cost power to irrigation projects. It is our position that a combination of project development and low-cost power were part of the compensation the State was to receive under Pick-Sloan. With the combination of high interests rates, high fuel costs, and inflation in general, low-cost power for irrigation is a necessity for the survival of South Dakota's agricultural economy.

Section 2(a) could also provide for development of municipal and industrial resources for cities such as my hometown of Mitchell. The current municipal water needs of Mitchell are close to exceeding the available supply. Ground water as a supply source was determined to be unsuitable way back in 1928. Our ground water quality has not improved in the past 50 years.

The obvious alternative for Mitchell is the importation of Missouri River water by some means. Several plans have been proposed, but all are too expensive for local government to construct without assistance.

A plan could be developed whereby Mitchell would cooperate with others to provide the water it needs. With adequate water, the city

would be able to expand its economic base and provide more jobs to area residents in that area of South Dakota.

Finally, although portions of this bill pertain to the Oahe project, they should not be considered to be a complete replacement for it. I believe that this bill is a good beginning, and I look for continued Federal assistance to help us reach our water development goals that we have waited for so long to achieve.

And now if I might, Mr. Chairman, I would like to introduce former Senator Jones from Yankton—Ken Jones from Yankton.
Senator?

**STATEMENT OF HON. KENNETH JONES, FORMER STATE SENATOR,
YANKTON, S. DAK.**

Senator JONES. Mr. Chairman and members of the committee.

Senator MURKOWSKI. Please proceed.

Senator JONES. Thank you, sir. I will very briefly paraphrase our written testimony.

While the WEB project itself does not directly affect our area, we are vigorously supporting 1553, that we feel it's very important to South Dakota. It's a forward and favorable start for compensation for the resources and property lost with our main-stem impoundments.

That which does affect our area and southeastern South Dakota is section 2, which would suggest additional study for the water needs of this area. We have serious problems in the area of the lower James River, and our channel constrictions which needs addressing, and also we have serious flood problems from time to time.

In addition, several counties around Yankton have water problems both quantity and quality.

Further, our people are interested and concerned with the resources of irrigation. Currently it's costing on irrigating a center pivot—electricity alone—upwards from \$1,000 to several times that to provide the amount of water necessary to bring the crops in to support this great Nation.

We feel that section 4 will address that in making available to our irrigators electricity at a much more favorable rate, and it's currently being obtained, and certainly, thereby, contributing to the economic strength not only of our area, but the State and Nation.

Briefly, we again support Senate bill 1553. We are more directly concerned with provisions other than the WEB, but we are strongly supporting it so South Dakotans can go forward shoulder to shoulder in demonstrating a cohesiveness meeting the needs of water projects.

We further firmly believe that the WEB is not a total exchange in complete compensation for the land we have lost, but we feel that the other provisions of the bill will enable additional Federal support of water projects that would be in the best interests of South Dakota and our Nation.

Thank you, sir.

[The prepared statement of Senator Jones follows:]

****TESTIMONY****
KEN JONES, YANKTON, SOUTH DAKOTA
SENATE SUBCOMMITTEE ON WATER AND POWER
PIERRE CIVIC AUDITORIUM

SEPTEMBER 12, 1981

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE: MY NAME IS KEN JONES. I AM A BUSINESSMAN AND FORMER STATE SENATOR FROM YANKTON, SOUTH DAKOTA. I AM CURRENTLY THE CHAIRMAN OF THE SOUTH DAKOTA MISSOURI RIVER BOUNDARY COMMISSION. AS A CITIZEN THAT IS CONCERNED ABOUT WATER DEVELOPMENT, I APPRECIATE THE OPPORTUNITY TO TESTIFY IN SUPPORT OF SENATE BILL 1553.

SOUTH DAKOTANS HAVE WAITED PATIENTLY FOR FEDERALLY ASSISTED WATER DEVELOPMENT AS COMPENSATION FOR THE LAND WE LOST TO THE MISSOURI RIVER DAMS. I BELEIVE THAT THIS LEGISLATION IS A FIRST STEP TOWARD MEETING OUR STATE'S WATER DEVELOPMENT GOALS.

ALTHOUGH I CANNOT SPEAK DIRECTLY FOR THE OTHER RESIDENTS OF MY AREA, I STRONGLY FEEL THAT THE VAST MAJORITY ARE IN FAVOR OF ALL PARTS OF THIS BILL, ESPECIALLY SECTIONS ONE, TWO AND FOUR.

THE WEB PROJECT WILL PROVIDE BADLY NEEDED, HIGH QUALITY WATER TO THE FARMS AND CITIES OF NORTHCENTRAL SOUTH DAKOTA. WEB WILL GIVE OUR STATE AN OPPORTUNITY TO SHOW CONGRESS WHAT WE ARE CAPABLE OF DOING WITH WATER DEVELOPMENT WHEN FUNDS ARE AVAILABLE. IN THIS REGARD, I WOULD LIKE TO EMPHASIZE TO THE COMMITTEE THAT WEB SHOULD NOT BE CONSIDERED AS AN EQUAL SUBSTITUTE FOR THE OAHF PROJECT. IT IS A BEGINNING AND ONLY A BEGINNING.

SECTION TWO OF THIS BILL WILL ENABLE SOUTH DAKOTA TO STUDY A NUMBER OF ITS WATER PROJECTS AND PROBLEMS. THE LOWER JAMES RIVER HAS SERIOUS PROBLEMS WITH CHANNEL OBSTRUCTIONS AND PERIODIC FLOODING. IN ADDITION, SEVERAL COUNTIES AROUND YANKTON

HAVE WATER QUALITY AND QUANTITY PROBLEMS. COMPREHENSIVE STUDIES ON THESE AND OTHER WATER DEVELOPMENT QUESTIONS WILL SIGNIFICANTLY CONTRIBUTE TO THEIR SOLUTION.

SECTION FOUR OF THE BILL HAS THE POTENTIAL TO DIRECTLY BENEFIT THE PEOPLE OF MY AREA. A REDUCTION IN POWER RATES TO IRRIGATION PROJECTS WOULD REDUCE INDIVIDUAL OPERATING COSTS AND INCREASE THE NUMBER OF ACRES UNDER IRRIGATION.

CURRENT ELECTRICITY COST ESTIMATES BY SOUTH DAKOTA STATE UNIVERSITY FOR OPERATING A 130 ACRE CENTER PIVOT IRRIGATION SYSTEM UNDER VARIOUS TECHNOLOGICAL, GEOLOGIC, AND TOPOGRAPHIC CONDITIONS RANGE FROM \$950 TO \$8,800 PER YEAR. THIS FIGURE DOES NOT INCLUDE THE INITIAL COST OF THE SYSTEM OR OTHER CROP PRODUCTION COSTS. UNFORTUNATELY, IRRIGATING MUCH OF THE LAND IN MY AREA AND THROUGHOUT THE STATE WOULD PRODUCE ELECTRIC BILLS FAR ABOVE \$950 PER YEAR. FARMERS ARE CURRENTLY PAYING BETWEEN FOUR AND SIX CENTS PER KWH FOR IRRIGATION POWER FROM REA'S. FEDERAL POWER WOULD ONLY COST ONE-FIFTH TO ONE-TENTH AS MUCH UNDER CURRENT ESTIMATES. AS YOU CAN SEE, REDUCED POWER COULD GREATLY REDUCE THE COST OF PRODUCTION AND INCREASE THE PRODUCTIVITY OF MANY ACRES OF FARMLAND.

UNDERTAKINGS, SUCH AS THE GRASS ROPE AND LAKE ANDES-WAGNER PROJECTS, WILL IMPROVE THE ECONOMIC CONDITIONS OF FARM AND NONFARM RESIDENTS. A 1979 STUDY ON THE POTENTIAL IMPACTS OF IRRIGATION IN MY AREA SHOWED THAT THE NONFARM ECONOMIC BENEFITS OF IRRIGATION WERE GREATER THAN THOSE RECEIVED BY THE FARMERS THEMSELVES. IRRIGATION WILL HELP SOLVE A NUMBER OF ECONOMIC PROBLEMS IN MY REGION, SUCH AS THE OUTMIGRATION OF YOUNG PEOPLE, BY PROVIDING INCREASED RURAL AND URBAN EMPLOYMENT OPPORTUNITIES.

IN CONCLUSION, I WOULD LIKE TO STATE THAT MOST SOUTH DAKOTANS ARE WILLING TO PUT UP THEIR SHARE FOR WATER DEVELOPMENT. OVER 2,500 FARMERS AND RANCHERS IN MY PART OF THE STATE HAVE BORROWED \$20 MILLION OVER THE PAST EIGHT YEARS TO HELP CONSTRUCT SEVERAL RURAL WATER SYSTEMS. WE NEED FEDERAL ASSISTANCE TO CONTINUE OUR WATER DEVELOPMENT EFFORTS AND THIS BILL WILL GIVE US NEEDED SUPPORT IN THAT DIRECTION.

THANK YOU.

Senator MURKOWSKI. Thank you, Senator Jones.

Senator SHANARD, in your testimony, you indicated a concern over low-cost power being available for irrigation. It's my understanding that a good deal of power generated is consumed outside the State. Might you, in the record, elaborate a moment on the makeup of the contracts that allow for the export, so to speak, of the power outside the State of South Dakota. Are there termination dates that could be changed to maintain that power in the State?

Senator SHANARD. Well, Mr. Chairman, without having a copy of that contract before me, I will try to the best of my ability to recite that which, to my knowledge, is contained therein.

A promise of reasonable power for irrigation with the development of the Pick-Sloan plan is in the contract. As I recall, it's about 2-mill power. And South Dakota has never received benefit from that promise at that time because of the lack of irrigation development promised in the act of 1944. And that is the power allocation that I referred to, sir.

Senator MURKOWSKI. Thank you, Senator.

Senator Abdnor, do you have questions?

Senator ABDNOR. No questions.

Senator MURKOWSKI. Thank you very much, Senator. We very much appreciate your testimony and wish you a good morning.

We will call next on the Honorable Warren Neufeld, secretary, South Dakota Department of Water and Natural Resources. He will be accompanied by Mr. Robert Helmer, chairman of the South Dakota Board of Water and Natural Resources.

Gentlemen, we would ask that you come to the witness table and proceed with your testimony, and I wish you a good morning.

STATEMENT OF WARREN R. NEUFELD, SECRETARY, SOUTH DAKOTA DEPARTMENT OF WATER AND NATURAL RESOURCES

Mr. NEUFELD. Thank you, Mr. Chairman. It's a pleasure to be here today. Senator Abdnor, it's good to see you again.

Mr. Chairman, I would like to give a little background to the position I hold with State government in South Dakota. I am not only charged with organizing and developing State policy for water development, I also serve in a position comparable to what would be called the State engineer in other States.

We handle water allocations, and we also enforce water quality and water pollution laws in this State. We are responsible for safe drinking water quality in this State, and we also enforce any mining and mining air quality, and salt waste disposal statutes in this State.

From this perspective, I would like to state, Mr. Chairman, that I am an unqualified supporter of the WEB project. The people in that area have a very severe, in many cases, quality water problem that hinders not only their own personal life style, but the ability of their farm and communities to produce on an economic basis.

Livestock in this State represents approximately 70 percent of the gross agricultural receipts that farms receive. Not crops, but livestock. The quality of the drinking water for livestock has a very large impact on the ability of that segment of our industry to produce.

And it's from that point I say that water is not only the economic

salvation of the future of our State, but it's a precious and valuable resource that has to be conserved and treated wisely. And it's for that reason I think that WEB is a very good project that's going to solve more of the State drinking water contaminant violations than just about any other rural water system in the State, and the capital investment is quite a bit less, too.

On the other hand, Mr. Chairman, I would like to state that we can't concentrate only on the quality of life in the State. South Dakota ranked 48th in the Nation per capita income recently. In 1976, the Farmers Home Administration estimated that the total loss, economic loss in the State due to drought was \$1 billion. That's what their figures estimate.

I recognize that when the Office of Management and Budget deals with those figures, \$1 billion is represented by a simple unadorned line in the ledger columns, but to South Dakota, that's a lot of money. Again, in 1980, we suffered \$600 million worth of drought loss.

I'd like to read you a statement made by the Commissioner of Reclamation not too long ago, if I might, Mr. Chairman. It appears in my formal testimony.

The Commissioner said:

The droughts of the last decade cost governmental agencies, principally federal, a total of \$1,246,000,000, and these expenditures were inadequate to the needs, since tens of thousands of families nevertheless were forced to migrate from their homes. These expenditures are roughly equal to the cost of full utilization of the waters of the Missouri River system. While it is not contended that full use of these waters will eliminate drought losses, it will reduce the catastrophic effects and prevent much of the human suffering.

He also said:

The irrigation of numerous areas scattered widely over the northern Great Plains and over other semiarid sections of the Missouri River Basin would add the stabilizing influence of lands with insured crops and high yields to an unavoidably precarious dry farm and grazing economy.

Mr. Chairman, that statement was made by Commissioner H. W. Bashore, who served as a Commissioner of Reclamation during the 1940's, and it was a statement submitted in the Congressional Record by Representative Lemke from North Dakota in 1944 as part of the process of authorizing the 1944 Flood Control Act.

We stand here in September 1981, Mr. Chairman. That act that authorized supplying 537,000 acres of South Dakota land was passed in December 1944. In the intervening period, not 1 gallon, not 1 gallon of the Missouri River water has been put to use in irrigating the lands of the State of South Dakota under the Pick-Sloan plan.

Mr. Chairman, clean water, clean lakes, good drinking water are important things to the State of South Dakota. But when the economy of the State is in trouble, you don't go around investing in the collateral aspects of that economy. You try and rebuild the basic industries, and in this State, it's crop production and livestock production.

Without irrigation, we are not going to be able to afford clear river water systems, we're not going to be able to afford to keep our lakes clean, we need to rebuild our basic industry.

With respect to the bill itself, Mr. Chairman, statements have been made by people in South Dakota that we need to deauthorize the Oahe project to move on to water development. The Governor of South Da-

kota has all but said we would be foolish to throw away that authorization; if we need to redesign our house, let's get on with redesigning that, but don't throw the baby out with the bath water.

We are perfectly content, and I stated in my statement, that the east and west main canals were to be deleted from that authorization. We feel that it would protect the areas of the Spink and Brown County Irrigation Districts from construction of the project in their area.

If they feel this is inadequate, we are perfectly willing to sit down and talk with them again as often as may need be to reach some sort of agreement.

And furthermore, Mr. Chairman, statements have been made that this bill will authorize the Secretary of Interior to unilaterally cancel the contracts, and perhaps enter into additional contracts for the irrigation project and see that it is constructed against the will of the people in those two irrigation districts.

I believe nothing to be further from the truth. The Constitution of the United States protects their contract rights, and no matter what is stated in that bill, you would only authorize the Secretary of Interior to negotiate the cancellation of those contracts and those entities, and nothing could be canceled without their agreement.

I think their rights are perfectly protected, and anybody that says anything different, certainly that's a misunderstanding of the Constitution and the existing contracts.

Mr. Chairman, I will turn it over to Mr. Helmer.

[The prepared statement of Mr. Neufeld follows:]

STATEMENT OF WARREN R. NEUFELD, SECRETARY, SOUTH DAKOTA
DEPARTMENT OF WATER AND NATURAL RESOURCES

Mr. Chairman, and members of the Committee, my name is Warren Neufeld. I am the Secretary of the South Dakota Department of Water and Natural Resources. I would like to thank the Committee for this opportunity to address this most important and timely issue. For the sake of brevity, I will simply summarize the parts of my testimony which I think are most important and will incorporate the remainder of my prepared statement into the record.

INTRODUCTION

Water development in South Dakota is necessary for stabilizing and improving our agricultural and industrial economy, as well as for providing good quality drinking water to improve the life of our urban and rural citizens. In many wells in our State the drinking water is of such poor quality that it is not even recommended for use by livestock. Yet, this same water is still being used in homes.

There is evidence that quality drinking water for livestock can increase the returns farmers receive from livestock. Quality drinking water can help livestock to remain healthier, to grow faster, to improve their feed efficiency and can help save on the replacement costs of pipes and equipment, e.g., hot water heaters and softeners. But improving the quality of drinking water on South Dakota farms and in our communities is not enough.

We cannot control the prices farmers receive for their products, but we can have a beneficial effect on their crop production by assisting them with irrigation development. The annual weather patterns in our State are highly erratic which has an adverse impact on crop yields. South

Dakota has been hit with drought several times in the last decade, the most recent occurring in 1980. These droughts not only cost the farmers money but also cost the federal government. Every year that South Dakota has a drought the government makes disaster loans at low interest rates and disaster payments that add up to millions of dollars in financial aid. This decreases the revenue the government receives from the federal income taxes paid by South Dakotans.

The Farmers Home Administration estimated that farm losses were one billion dollars in 1976 and 600 million dollars in 1980. These are just two examples of what has happened many times throughout South Dakota's history, most notably in the dust bowl days of the 1930's. I would like to read you a statement that was made by the Commissioner of the Bureau of Reclamation:

"The droughts of the last decade cost governmental agencies principally Federal, a total of \$1,246,557,087, and these expenditures were inadequate to the needs, since tens of thousands of families nevertheless were forced to migrate from their homes. These expenditures are roughly equal to the cost of full utilization of the waters of the Missouri River system. While it is not contended that full use of these waters will eliminate drought losses, it will reduce the catastrophic effects and prevent much of the human suffering."

He also said:

"The irrigation of numerous areas scattered widely over the northern Great Plains and over other semi-arid sections of the Missouri River Basin would add the stabilizing influence of lands with insured crops and high yields to an unavoidably precarious dry farm and grazing economy."

Mr. Chairman and other members, the Commissioner of the Bureau of Reclamation that made those statements was H. W. Bashore who served during the 1940's. These statements were submitted in the

Congressional Record by Representative Lemke from North Dakota in 1944. In 1944, the value of irrigation development to the people, the States and the Federal government was recognized. The problems that existed then continue to exist today.

Governor Janklow, at a meeting held in Huron on August 13, presented some overwhelming statistics supporting the reasons why South Dakota needs water development now. In 1976 and 1980 South Dakota ranked 48th in per capita income in the nation. Normally we rank around 35th in per capita income. But in 1976 and 1980, South Dakota had severe widespread droughts that resulted in low farm income and low per capita income. Why was per capita income drastically lower than normal? Because the overall economy of South Dakota is more dependent upon its ag economy than any other state.

In South Dakota, twenty percent of total labor and proprietor's income is earned on-the-farm income. While in other states the relationship of total income and farm income is much lower; e.g., Texas, 2%; Iowa 11%; Minnesota 7%; Wyoming 7%, Nebraska 15% and the U. S. 2 to 3%.

The dependence of our state on agriculture makes our economy highly variable. South Dakota does not have a major industrial base or an abundance of energy resources. One of the larger economic sectors in South Dakota, besides agriculture, is tourism, and you know what the price of gas has done to vacation travel.

In 1976, total farm income for the State was one-third of what it was in 1975 and 1977, and in 1976, farm income was only one-eighth of what it was in 1973. This was a result of poor yields and decreasing

livestock numbers. From 1974 to 1976 South Dakota corn yields were just over 30 bushel per acre while the national average was over 85 bushels per acre.

In 1975 and 1976 many South Dakota cattle were sold to neighboring states and slaughtered at packing plants because of a lack of feed. Federal programs were initiated to subsidize the transportation costs of feed during the 1976 drought, but the cost of feed was still too high. Between 1974 and 1977 we lost 27 percent of our cattle and 35 percent of our beef cows. South Dakota is still suffering from these losses as cattle numbers are still 800,000 less than they were in 1974. This may have been prevented if there had been enough irrigation to provide the feed base. My staff along with the South Dakota Department of Agriculture has computed that 2.14 million irrigated acres is necessary to sustain cattle, hog and sheep numbers at 1979 levels.

Recurring droughts have resulted in a declining number of farms, decreasing population, and increased fiscal problems for the State, local governments and private enterprises. The people of South Dakota have realized that this cannot continue and are demanding that action be taken.

As I stated before, these problems are not new for South Dakota and the other Great Plains States. In fact, Congress in 1944 recognized these problems and initiated a program to stabilize our region's economy. Pursuant to Section 9(a) of the Flood Control Act of 1944; P.L. 534, 78th Cong., Ch. 665, 2d Sess., the United States Congress endorsed a plan to provide Missouri River basin states with the means to tame and beneficially use the Missouri River. In order to control the

destructive floods in the lower Missouri River basin, a series of massive mainstem dams were constructed. These dams inundated over a million acres of the upper basin state's most agriculturally productive bottom lands. In return for this sacrifice, upper basin states were to receive substantial irrigation development to stabilize and ensure the long-term economic growth of the region. This major benefit to the upper basin states, however, has been painfully slow coming into existence.

South Dakota, under the original Pick-Sloan Plan, was to receive 972,510 acres of irrigated land in return for the 536,875 acres it sacrificed for the construction of the mainstem dams. The bulk of acreage to be irrigated in South Dakota was to be contained in the original 750,000 acre Oahe Unit. In 1968 Congress authorized the initial stage of the Oahe Unit and construction began in 1974.

Problems at the local, state and federal level, however, have resulted in the authorized project becoming a target for deauthorization and removal from the Pick-Sloan program. Such a maneuver would preclude South Dakota from obtaining its share of the promised benefits of Missouri Basin development and carries the potential of setting a dangerous precedent for all western states.

S 1553, the subject of today's hearings is an alternative approach to the resolution of the Oahe issue, and should be viewed in terms of partially satisfying the debt owed South Dakota for the lands sacrificed for the Pick-Sloan Missouri River mainstem dams and the accompanying federal commitment to stabilize the state's erratic agricultural economy.

S 1553

Section 1. This section reauthorizes the WEB Pipeline Project eliminating the pass-through of funds to the Department of Agriculture. Funding authorized by Section 9 of P.L. 96-355 was to be appropriated to the Secretary of Interior and then transferred to the United States Department of Agriculture. This unique pass-through mechanism has resulted in a jurisdictional dispute in Congress. The dispute, in part, is based on objections to the expenditure of Interior funds by the U.S.D.A. The WEB pipeline which will serve nine counties and 51 communities in North Central South Dakota has the full support of the State; and as such, the State supports the removal of this institutional barrier to the development of the WEB pipeline.

Section 2. This section authorizes the Secretary of Interior to study in cooperation with the State of South Dakota, the possible development of a number of water projects in lieu of the Oahe and Pollock-Herreld Irrigation projects, as previously designed and authorized.

The State supports this section of the bill although the Governor believes those persons to be served by WEB should not also be benefited by Pollock-Herreld until the entire State is compensated for the Pick-Sloan development. South Dakota's Governor, William J. Janklow, at a meeting held in Huron, South Dakota on August 13, 1981, outlined a water development program to be pursued by the State of South Dakota. The program he presented was for the purpose of initiating discussion between the federal government and the State of South Dakota in addressing the Oahe authorization issue and the commitment of the federal government to compensate the State for lands sacrificed for the

construction of the mainstem dams on the Missouri River under the Pick-Sloan Plan. (A brief description of projects addressed by the Governor at the Huron meeting are attached as Appendix A.) This section of S 1553 would allow for immediate action on the State's proposal and the ultimate resolution of the Oahe controversy.

Section 3. This section would permit the Secretary of Interior to cancel immediately the existing contracts on the Oahe Unit and release the reserve funds being held by the Oahe Conservancy Subdistrict. Furthermore, subsection (b) specifies that construction on facilities designed solely to serve the Spink and West Brown Irrigation Districts would be prohibited, however, the Secretary of Interior could recommend construction of other features of the authorized Oahe plan in conjunction with alternative uses identified under section 2 (a)(1).

While the State supports the immediate cancellation of the Oahe master and participating contracts, we are concerned with the ambiguity of subsection (b). The State can only give its unqualified support to the prohibition of construction on the West Main Canal and East Main Canal (See Exhibit 1). It is our belief that all other features of the Oahe Unit may be required to bring water to the James River Basin or take proposed projects such as CENDAK to fruition. Should local opposition or further study by the Secretary of Interior deem that the Cresbard and Redfield canals are not needed for delivering water to the James River the State may, for example, request instead that the Beadle Canal as proposed for the ultimate stage Oahe be authorized.

Section 4. This section would authorize the Secretary of Interior, in cooperation with the Department of Energy, to make available Missouri River Basin pumping power to irrigation projects originally authorized by the Flood Control Act of 1944.

This section is important for the development of several projects, such as the Grass Rope Irrigation Project, which were authorized by the Flood Control Act of 1944 but are pursuing non-reclamation funding. It is the position of the State that these projects and the low cost power were part of the compensation the State was to receive for its sacrifice under the Pick-Sloan Plan and that arbitrary institutional barriers, such as project funding sources, would morally if not legally, violate this past agreement.

CONCLUSION

Over thirty-five years ago, the federal government made a commitment to the State of South Dakota which it has not honored. The Pick-Sloan Plan, man's greatest attempt to harness the resources of a river, has now been completed by the construction of six massive dams on the Missouri River. It has been nearly twenty years since the last dam was constructed and South Dakota has not yet been made whole in the bargain. South Dakota sacrificed 536,875 acres of productive river bottom land to the Missouri River reservoirs. These reservoirs provide much needed flood control and protection largely to the states below South Dakota. Navigation has benefited greatly by the stabilization of a nine foot channel on the Missouri below Sioux City, Iowa. Inexpensive (federally subsidized) hydropower has been supplied to

South Dakota's surrounding states. Recreational benefits have been realized by the State as a result of the huge reservoirs, but Irrigation, the savior for the western states agricultural economy, has never been realized. Today, not a single gallon of mainstem Missouri River water is used on a federally assisted Irrigation project under the Pick-Sloan Plan in South Dakota.

South Dakota has paid a large price and received only a fraction of the benefits which the lower basin states have received from the Pick-Sloan Plan. The major benefit of the plan to the upper basin states, Irrigation, has been slow in coming to the point of being nonexistent.

S 1553, however, reaffirms the 1944 commitment by offering the state guarantees for financial assistance for future economic development and full use of all of the Missouri River water and power guaranteed in the 1944 Flood Control Act which were earmarked for Irrigation in South Dakota. The needs of South Dakota are not unreasonable, just as the needs of the entire Missouri River basin were not unreasonable in 1944. Nor are the promises made to South Dakota in the 1944 act unreasonable, but until such time as the federal government is prepared to honor those promises the State of South Dakota shall continue to be poverty ridden amidst a nation of affluence.

APPENDIX A

PROPOSED SOUTH DAKOTA WATER DEVELOPMENT PROGRAMS

The following South Dakota water program was presented by Governor Janklow to the people of South Dakota on August 13, 1981.

- (1) Big Sioux Hydrologic Unit Study. This study will analyze the long and short term effects of differing rates of groundwater recharge, surface storage and withdrawal of ground and surface water on water supplies in the Big Sioux Basin, which covers an area of 6700 square miles in eastern South Dakota. Preliminary estimates indicate that 200,000 to 400,000 acre-feet of good quality water may be available annually from ground water in the Big Sioux Aquifer. The study, which has been given a number one priority by the East Dakota Conservancy Subdistrict, will cost about \$3,000,000.
- (2) Garrison Diversion Unit. This proposal calls for modifications of the North Dakota Garrison Project in order to reduce the project's potential negative impacts and to create positive benefits throughout the James Basin in South Dakota. As we conceive it, the modifications will provide for flood control, channel improvements, off-stream storage and enough water to supply municipal and industrial needs and to irrigate approximately 100,000 acres in South Dakota. (Resolutions and letters of support for the Garrison appraisal level study are attached as Appendix B.) The irrigation delivery system will employ the "backbone" concept, i.e., the major delivery and storage features will be built as a unit of the Pick-Sloan Program with the remaining features constructed by local entities. Total cost of the extension is estimated to be \$134 million.

- (3) M.E.B. Pipeline. This system will supply treated Missouri River water for rural domestic, livestock and municipal use to portions of nine counties in north central South Dakota with 51 communities and 2925 farm and open country residences receiving service. The public water supplies of thirty-two of the thirty-four WEB cities, towns and rural systems which presently have public water supplies violate two or more of the Federal Safe Drinking Water Act maximum contaminant levels. Fourteen must find completely new sources of water by December 30, 1983. M.E.B. has the distinction of being the only new water project authorized by Congress in the last six years. Present cost is slightly over \$78 million.
- (4) Lake Andes-Wagner Irrigation Project. In this project, Missouri River water from Lake Francis Case will be used to irrigate over 78,000 acres in Charles Mix County. A private feasibility study has been completed, but the South Dakota Department of Water and Natural Resources is re-evaluating the project design to determine how to reduce costs to the users. The overall cost is currently about \$48 million. The State proposes that the possibility of the Lake Andes-Wagner project being authorized as a "backbone" delivery system and as a unit of the Pick-Sloan Program be investigated.
- (5) CENDAK. This irrigation project is truly a grassroots effort; conceived and planned by local interests to supply water to a six county area in central South Dakota. The State proposes that CENDAK also be built as a "backbone" system with the main features authorized as part of the Pick-Sloan program. Some partially

constructed features of the Oahe Unit could be finished to serve as part of the delivery system. At present, good intention fees totalling about \$115,000 have been collected for over 400,000 acres of farmland. A feasibility study is nearly complete and soil studies are expected to be done around October 1, 1981. Project costs have not been determined.

- (6) Grass Rope Unit. The Grass Rope Unit that is currently in operation uses Missouri River water from Lake Sharpe to irrigate 1400 acres on the Lower Brule Indian Reservation in Lyman County. Based on a recent feasibility study, the Tribe has proposed that the project be expanded by an additional 3490 acres at a cost of \$17,260,000. Acquisition of Pick-Sloan power rates to reduce pumping costs for irrigators is needed to ensure the project's construction and operation.
- (7) Belle Fourche Rehabilitation. The original Belle Fourche Irrigation Project, authorized in 1904 and completed in 1914, now serves over 57,000 acres in Butte County. This project, one of the first Reclamation Act facilities, is showing signs of old age. A rehabilitation project that will rebuild or improve the old diversion structure and various canals and laterals is required at a cost of just over \$39 million.
- (8) Black Hills Hydrology Study. This study will evaluate the quality and quantity of ground water resources in the Black Hills and develop a computer model to predict the effects of various groundwater management practices. The estimated cost is \$2,000,000. A top priority with the Black Hills Conservancy

Subdistrict, this study is also included in the State Water Resources Management System.

- (9) Gregory County Pumped Storage Unit. This facility will use off-peak electricity to pump water from Lake Francis Case to a 47,100 acre-foot reservoir on the bluff over 700 feet above the lake. Water from the reservoir will be released back to the lake through turbines to generate 1500 megawatts of peak-hour electricity that can allow us to save oil and use our state and regional power resources more efficiently. The unit also has the potential to serve as a source of rural domestic and irrigation water. The Corps of Engineers intends to seek an authorization to build this project in the next few years. Project costs as a multi-purpose facility are estimated at \$556 million.

APPENDIX B

RESOLUTIONS SUPPORTING PROPOSED MODIFICATION OF THE GARRISON
DIVERSION UNIT IN NORTH DAKOTARESOLUTION

WHEREAS an appraisal study is to be completed and other planning efforts undertaken by the South Dakota Garrison Study Management Board for the purpose of determining possible benefits for South Dakota and, specifically, the James River Basin due to proposed modification of the Garrison Diversion Unit in North Dakota, and

WHEREAS it is the opinion of this body that there is substantial public interest locally in the outcome of such appraisal and planning efforts, and

WHEREAS this interest needs to be brought to the attention of the Garrison Study Management Board and others involved with this effort, and

WHEREAS it is believed that the Garrison Diversion Unit has the potential by virtue of its promise of increased flows for the James River in this area of significantly contributing to beneficial improvements in the James River Basin,

NOW, THEREFORE, BE IT RESOLVED that this body endorses the expeditious pursuit of all such appraisals, planning and studies as may be necessary in this regard, and

BE IT FURTHER RESOLVED that such investigative efforts include consideration of such benefits as irrigation, farm domestic and livestock water, municipal and industrial water, channel improvements, flood and sediment control, additional storage such as on-river storage through ring dike development or storage on tributaries such as Firesteel Creek or Rock Creek, wildlife habitat enhancement, and other uses.

ADOPTED THIS 4th DAY OF August, 1981 BY Hutchinson County Board of
County Commissioners

ATTEST: *Paul J. [Signature]*
County Auditor

SIGNED: *Elroy [Signature]*
Elroy [Signature]

RESOLUTION

WHEREAS an appraisal study is to be completed and other planning efforts undertaken by the South Dakota Garrison Study Management Board for the purpose of determining possible benefits for South Dakota and, specifically, the James River Basin due to proposed modification of the Garrison Diversion Unit in North Dakota, and

WHEREAS it is the opinion of this body that there is substantial public interest locally in the outcome of such appraisal and planning efforts, and

WHEREAS this interest needs to be brought to the attention of the Garrison Study Management Board and others involved with this effort, and

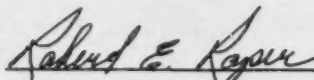
WHEREAS it is believed that the Garrison Diversion Unit has the potential by virtue of its promise of increased flows for the James River in this area of significantly contributing to beneficial improvements in the James River Basin,

NOW, THEREFORE, BE IT RESOLVED that this body endorses the expeditious pursuit of all such appraisals, planning and studies as may be necessary in this regard, and

BE IT FURTHER RESOLVED that such investigative efforts include consideration of such benefits as irrigation, farm domestic and livestock water, municipal and industrial water, channel improvements, flood and sediment control, additional storage such as on-river storage through ring dike development or storage on tributaries such as Firesteel Creek or Rock Creek, wildlife habitat enhancement, and other uses.

ADOPTED THIS 3 DAY OF Aug, 1981 BY Yankton County
Commissioners

ATTEST: 
Yankton County Auditor

SIGNED: 
Chm. Yankton Co. Comm.

AUG 7 1981

*South*RESOLUTION

WHEREAS an appraisal study is to be completed and other planning efforts undertaken by the South Dakota Garrison Study Management Board for the purpose of determining possible benefits for South Dakota and, specifically, the James River Basin due to proposed modification of the Garrison Diversion Unit in North Dakota, and

WHEREAS it is the opinion of this body that there is substantial public interest locally in the outcome of such appraisal and planning efforts, and

WHEREAS this interest needs to be brought to the attention of the Garrison Study Management Board and others involved with this effort, and

WHEREAS it is believed that the Garrison Diversion Unit has the potential by virtue of its promise of increased flows for the James River in this area of significantly contributing to beneficial improvements in the James River Basin,

NOW, THEREFORE, BE IT RESOLVED that this body endorses the expeditious pursuit of all such appraisals, planning and studies as may be necessary in this regard, and

BE IT FURTHER RESOLVED that such investigative efforts include consideration of such benefits as irrigation, farm domestic and livestock water, municipal and industrial water, channel improvements, flood and sediment control, additional storage such as on-river storage through ring dike development or storage on tributaries such as Firesteel Creek or Rock Creek, wildlife habitat enhancement, and other uses.

ADOPTED THIS 4 DAY OF August, 1981 BY _____

ATTEST: *[Signature]*
[Signature]

SIGNED: *[Signature]*
[Signature]

RESOLUTION

WHEREAS an appraisal study is to be completed and other planning efforts undertaken by the South Dakota Garrison Study Management Board for the purpose of determining possible benefits for South Dakota and, specifically, the James River Basin due to proposed modification of the Garrison Diversion Unit in North Dakota, and

WHEREAS it is the opinion of this body that there is substantial public interest locally in the outcome of such appraisal and planning efforts, and

WHEREAS this interest needs to be brought to the attention of the Garrison Study Management Board and others involved with this effort, and

WHEREAS it is believed that the Garrison Diversion Unit has the potential by virtue of its promise of increased flows for the James River in this area of significantly contributing to beneficial improvements in the James River Basin,

NOW, THEREFORE, BE IT RESOLVED that this body endorses the expeditious pursuit of all such appraisals, planning and studies as may be necessary in this regard, and

BE IT FURTHER RESOLVED that such investigative efforts include consideration of such benefits as irrigation, farm domestic and livestock water, municipal and industrial water, channel improvements, flood and sediment control, additional storage such as on-river storage through ring dike development or storage on tributaries such as Firesteel Creek or Rock Creek, wildlife habitat enhancement, and other uses.

ADOPTED THIS 3rd DAY OF Aug., 1981 BY Tripp
City Council, Tripp, S. D.

ATTEST:

[Signature]
Finance Office-

SIGNED

[Signature]

RESOLUTION

WHEREAS an appraisal study is to be completed and other planning efforts undertaken by the South Dakota Garrison Study Management Board for the purpose of determining possible benefits for South Dakota and, specifically, the James River Basin due to proposed modification of the Garrison Diversion Unit in North Dakota, and

WHEREAS it is the opinion of this body that there is substantial public interest locally in the outcome of such appraisal and planning efforts, and

WHEREAS this interest needs to be brought to the attention of the Garrison Study Management Board and others involved with this effort, and

WHEREAS it is believed that the Garrison Diversion Unit has the potential by virtue of its promise of increased flows for the James River in this area of significantly contributing to beneficial improvements in the James River Basin,

NOW, THEREFORE, BE IT RESOLVED that this body endorses the expeditious pursuit of all such appraisals, planning and studies as may be necessary in this regard, and

BE IT FURTHER RESOLVED that such investigative efforts include consideration of such benefits as irrigation, farm domestic and livestock water, municipal and industrial water, channel improvements, flood and sediment control, additional storage such as on-river storage through ring dike development or storage on tributaries such as Firesteel Creek or Rock Creek, wildlife habitat enhancement, and other uses.

ADOPTED THIS 3rd DAY OF Aug, 1981 BY City Council,
City of Freeman, Freeman, S.D.

ATTEST:

Palmer Schrag
Auditor

SIGNED:

Chester L. Norcross
Mayor

RESOLUTION

WHEREAS an appraisal study is to be completed and other planning efforts undertaken by the South Dakota Garrison Study Management Board for the purpose of determining possible benefits for South Dakota and, specifically, the James River Basin due to proposed modification of the Garrison Diversion Unit in North Dakota, and

WHEREAS it is the opinion of this body that there is substantial public interest locally in the outcome of such appraisal and planning efforts, and

WHEREAS this interest needs to be brought to the attention of the Garrison Study Management Board and others involved with this effort, and

WHEREAS it is believed that the Garrison Diversion Unit has the potential by virtue of its promise of increased flows for the James River in this area of significantly contributing to beneficial improvements in the James River Basin,

NOW, THEREFORE, BE IT RESOLVED that this body endorses the expeditious pursuit of all such appraisals, planning and studies as may be necessary in this regard, and

BE IT FURTHER RESOLVED that such investigative efforts include consideration of such benefits as irrigation, farm domestic and livestock water, municipal and industrial water, channel improvements, flood and sediment control, additional storage such as on-river storage through ring dike development or storage on tributaries such as Firesteel Creek or Rock Creek, wildlife habitat enhancement, and other uses.

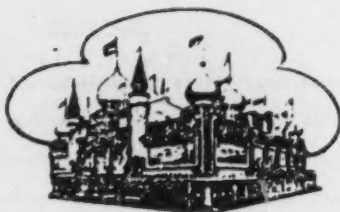
ADOPTED THIS 27 DAY OF June, 1981 BY Charles H. Anderson
Chairman

ATTEST: Louise Olson
Secretary

SIGNED: Charles H. Anderson
Chairman, SD DAB

City of Mitchell

office of MAYOR



★ PHONE 605, 996-2142

★ MITCHELL, SOUTH DAKOTA 5730

August 31, 1981

Mr. Darrel Krull, Project Manager
Garrison Diversion Unit
Bureau of Reclamation

Dear Mr. Krull:

During the past months, many and varied groups have expounded upon the advantages and disadvantages of South Dakota receiving water from your project. Our governor has proposed a plan with which I basically agree. Some individuals and groups have expressed adverse opinions which, frankly, I doubt represent the views of a great majority of the residents, urban and rural, in the James River Basin.

Because of this somewhat confused situation, I feel it essential that I write you expressing what I am confident are the desires of the vast majority of our Mitchell residents as well as the trade territory we serve.

Mitchell has a serious long term water problem. While we have no immediate concerns, the stabilizing effect of a dependable source of water, both quantity and quality is absolutely essential to the continued growth and development of our city and the trade territory we serve as well.

We do supplement our water supply by pumping from the James River. The water presently held in Lake Mitchell is from the James as we have had no flows for some time from the Firesteel. Presently there is no flow in the James River and the water level in the lake has dropped dramatically during the summer months. We hope for river flows so that we can replenish these supplies, but certainly conditions indicate the precarious position we are in will deteriorate further if the river continues to be as low as it presently is. Mitchell has reduced consumption by water restrictions.

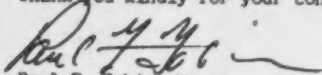
Our City has also spent substantial sums of money on test wells but the drawdown problem has been so serious that it is readily apparent that wells cannot meet the water needs in our area.

All of which brings me to the basic reason for my writing you and asking for support for a system of maximizing the amount of water releases from the Jamestown and Pipestem Reservoirs. It is our hope that, despite any adverse reports emanating in our State by anti-developers, that you would use your influence to develop your management along the lines I have just suggested.

We are, of course, interested in water quality but our immediate concern is quantity. I am convinced that that we can arrive at a solution mutually satisfactory to both States.

We are encouraged by the cooperative efforts that appear to be developing between our two States with Governors Olson and Janklow and their leadership. We have been and continue to be concerned that, since we are located in the lower reaches of the river, we would not receive sufficient water to meet our needs. This is of primary concern to us and I want to assure you that I would be most happy to meet with you at your convenience to discuss this matter in more detail.

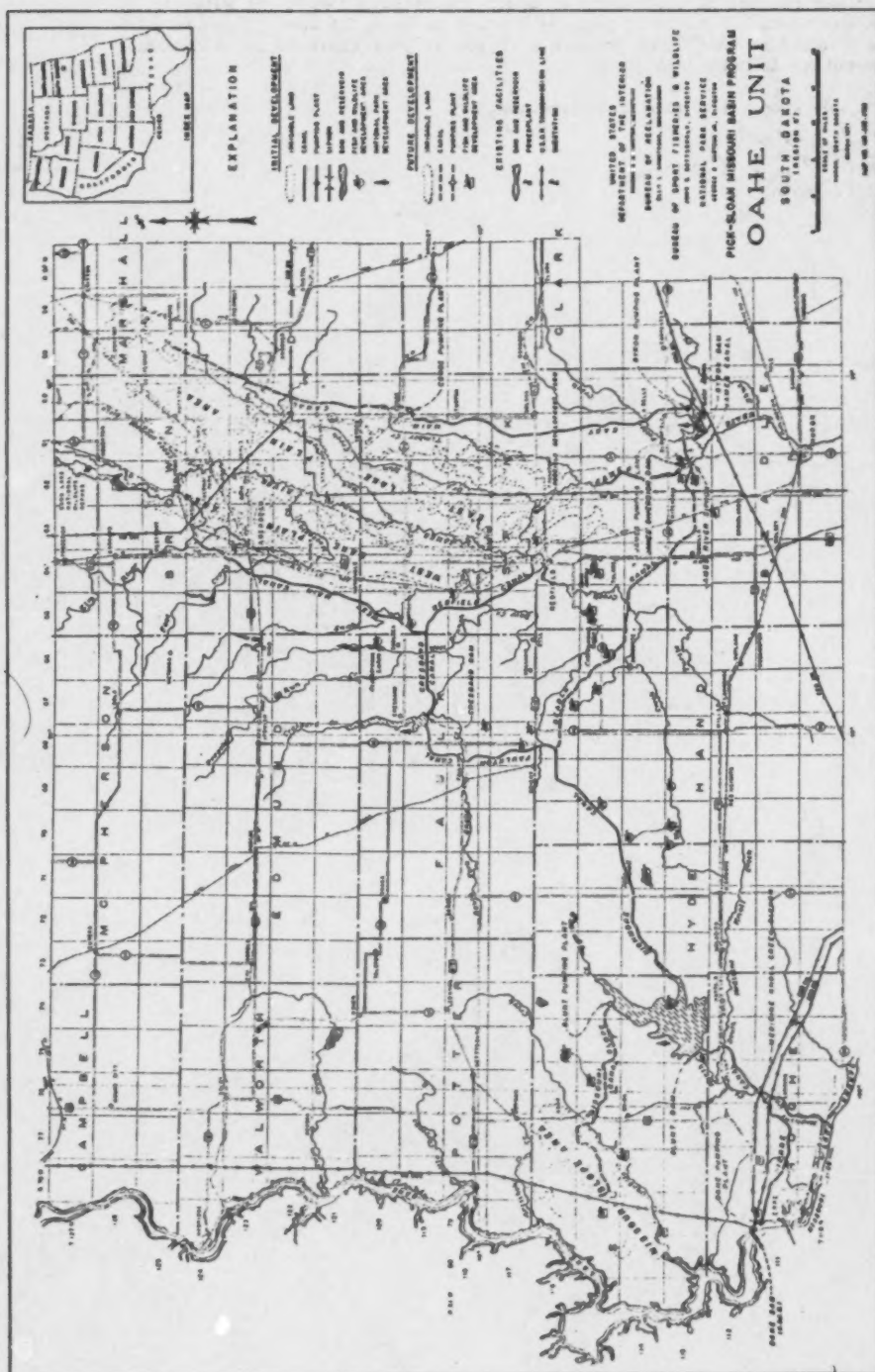
Thank you kindly for your consideration.



Paul F. Tobin, Mayor

EXHIBIT 1

OAHE UNIT MAP, MARCH 1971



Senator MURKOWSKI. Thank you, Mr. Neufeld. Mr. Helmer?

**STATEMENT OF ROBERT HELMER, CHAIRMAN, SOUTH DAKOTA
BOARD OF WATER AND NATURAL RESOURCES**

Mr. HELMER. Mr. Chairman, members of the committee, my name is Robert Helmer. I am the chairman of the South Dakota Board of Water and Natural Resources, along with other jobs that I have.

The Board of Water and Natural Resources in the State of South Dakota is an advisory body that oversees water policy and water development in this State. Although the Board is primarily an advisory board, it also exercises certain responsibilities itself.

These include disbursing the State's grant funds to rural water systems, exercising supervision over the various entities that sponsor water projects in the State, planning and evaluating facilities and issuing bonds to finance water projects.

Mr. Chairman, I come before you today to advocate the cause of water development for the State of South Dakota as reflected in Senate bill 1553, because I am a believer of water development for the State of South Dakota. My belief in water development for this State stems not so much from my position on the board as from my lifelong residence of and love for the State of South Dakota.

I know firsthand the benefits of water development because nothing so much as water development has made it possible for me to remain in this State and prosper, while many members of my generation, along with untold thousands of other young South Dakotans, have drifted off to those regions of this Nation where prosperity was more than a hollow promise.

Senator Murkowski, I am an irrigator in the far western part of the State of South Dakota near the city of Belle Fourche. And if you don't know where that is, that's 10 miles from Wyoming and 20 miles from Montana.

And I know the contribution that irrigation can make to the economy and overall life of the people in this area. I obtain my water for irrigation from the Belle Fourche Irrigation project, one of the pioneer projects built by the Bureau of Reclamation back in the first years of this century.

This project changed the face of the region in which I was born and grew up. And I and my fellow citizens in this project have prospered largely as a result of that development, while other areas in the State withered and died under the droughts that have periodically afflicted this region of the Nation.

Mr. Chairman, my belief in the development of our water resources is not an intellectual exercise, but is a gut feeling born of a lifelong and intimate association with a home shaped by that development.

I believe that development of our water resources can turn this State around from one which has constantly lost population into a thriving environment where our children will have a future.

Mr. Chairman, probably the saddest reminder of what the failure to develop our water resources means to those of us who have spent a lifetime in this State, is the parting of children who have been forced

to leave this State for other parts of the Nation because the State that has been their home is incapable of providing them a living.

That is why I believe in the development of our water resources and why, as chairman of the Board of Water and Natural Resources, I have and will continue to do my utmost to see that domestic water supplies are provided for our cities and rural people alike; that irrigation is developed that can stabilize our economy so that our industrious farmers can remain on the land; and that water for energy and industry is provided to broaden the base of South Dakota's economy and make this State less dependent on farmers for its prosperity.

As the Belle Fourche project illustrates, water development is not a new idea to the people of South Dakota. The dust bowl of the 1930's indelibly etched in the minds of we South Dakotans the need to protect ourselves from the devastation of drought.

This need found expression in the Pick-Sloan Missouri River Basin plan that was incorporated in the 1944 Flood Control Act. Under that plan, South Dakota agreed to the building of four massive dams on the Missouri River and the flooding of our fertile bottomlands so that Iowa, Nebraska, Missouri, and Kansas could be free of floods.

The principal benefit for this State was to be irrigation—

Senator MURKOWSKI. Mr. Helmer, I wonder if you could summarize your remaining remarks, please.

Mr. HELMER. Yes, sir, I certainly will.

At any rate, the development from the project that we have now in the Missouri River, this process culminated in time for the senate bill 34 by the 1981 South Dakota Legislature which added 34 projects to the 6 existing projects in our State. These 40 projects formed the core of the people of South Dakota through the elected representatives.

Mr. Chairman, South Dakota is a State with a great deal of potential. We have the most industrious citizens on earth, we have an excellent soil, and we have ample water resources. What we need now is to put these resources together to work for the prosperity of the citizens of this State.

Senator Abdnor's bill will provide the necessary legal framework for the citizens and elected officials of this State to transform that new positive direction into the development that this State so desperately needs.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Helmer follows:]

STATEMENT OF ROBERT HELMER, CHAIRMAN, SOUTH DAKOTA BOARD
OF WATER AND NATURAL RESOURCES

Mr. Chairman, members of the Committee, my name is Robert Helmer. I am the Chairman of the South Dakota Board of Water and Natural Resources. The Board of Water and Natural Resources in the State of South Dakota is an advisory body that oversees water policy and water development in this state. Although the Board is primarily an advisory board, it also exercises certain responsibilities itself. These include dispersing the State's grant funds to rural water systems, exercising supervision over the various entities that sponsor water projects in the State, planning and evaluating facilities and issuing bonds to finance water projects.

Mr. Chairman, I come before you today to advocate the cause of water development for the State of South Dakota as reflected in S 1553 because I am a believer in water development for the State of South Dakota. My belief in water development for this State stems not so much from my position on the Board as from my life long residence and love for the State of South Dakota. I know first hand the benefits of water development because nothing so much as water development has made it possible for me to remain in this State and prosper while many members of my generation along with untold thousands of other young South Dakotans have drifted off to those regions of this nation where prosperity was more than a hollow promise. Senator Murkowski, I am an irrigator in the far western part of the State of South Dakota near the City of Belle Fourche, and I know the contribution that irrigation can make to the economy and overall life of the people in an area. I obtain my water for irrigation from the Belle Fourche Irrigation Project, one of the pioneer projects built by the Bureau of Reclamation back in the first years of this century. This project changed the face

of the region in which I was born and grew up, and I and my fellow citizens in the project area have prospered largely as a result of that development while other areas in the State withered and died under the droughts that have periodically afflicted this region of the nation. Mr. Chairman, my belief in the development of our water resources is not an intellectual exercise, but is a gut feeling born of a life-long and intimate association with a home shaped by that development.

I believe that development of our water resources can turn this State around - from one which has consistently lost population into a thriving environment where our children will have a future. Mr. Chairman, probably the saddest reminder of what the failure to develop our water resources means to those of us who have spent a lifetime in this State is the parting of children who have been forced to leave this State for other parts of this nation because the State that has been their home is incapable of providing them a living. That is why I believe in the development of our water resources and why as Chairman of the Board of Water and Natural Resources, I have and will continue to do my utmost to see that domestic water supplies are provided for our city and rural people alike, that irrigation is developed that can stabilize our economy so that our industrious farmers can remain on the land, and that water for energy and industry is provided to broaden the base of South Dakota's economy and make this State less dependent on farmers for its prosperity.

As the Belle Fourche Project illustrates, water development is not a new idea to the people of the State of South Dakota. The dust bowl of the 1930's indelibly etched in the minds of we South Dakotans the need

to protect ourselves from the devastation of drought. This need found expression in the Pick-Sloan Missouri River Basin Plan that was incorporated in the 1944 Flood Control Act. Under that plan, South Dakota agreed to the building of four massive dams on the Missouri River and the flooding of our fertile bottomlands so that Iowa, Nebraska, Missouri, and Kansas could be free of floods. The principal benefit for this State was to be irrigation, most of which was to be contained in the Oahe Project. As you are well aware, the Oahe project ran into serious problems due to various factors. The disputes over the project cut deep wounds into our people, and that dissension has for years virtually paralyzed the ability of South Dakotans to unite behind a plan for providing the kind of water resource development that can contribute substantially to the economy of this State. Recognizing that the time had come to cease quarrelling and begin a positive approach to water development, the Board of Water and Natural Resources last summer initiated an earnest water planning process to set in motion this positive approach. This process culminated in the enactment of Senate Bill 34 by the 1981 South Dakota Legislature which added some 34 new projects to the six existing projects in the State Water Resources Management System. These forty projects form the core of what the people of South Dakota, through their elected representatives, have decided is needed by this State. The Board is presently continuing the process of evaluating these projects to the end of developing strategies for the implementation and construction of all forty of these projects.

The planning process that the Board embarked on has not ended the feuding over the Oahe project, however. At numerous Board meetings, the question of the Oahe Project authorization popped up, created confusion and dissension and interfered with the Board's ability to proceed with positive development for the State. For this reason, in June of this year, the Board decided that decisive action was necessary to turn the tide of water development away from the divisive Oahe issue and into positive action. The Board decided that Governor Janklow, as the chief spokesman for the State, was the proper person to arrange the settlement of the Oahe issue, including the selection of alternative facilities that would be acceptable substitutes for the Oahe Project.

Governor Janklow took this task to heart and on August 13, 1981, revealed a plan for development of the State's waters that would form the basis of settling the Oahe issue and putting the State on a positive track toward development. The Governor's choice of facilities was an excellent exercise of judgement. Of the projects selected by the Governor, all have received a top priority rating from the conservancy subdistricts in the State. Although the Board has not formally concluded its own prioritization process, in view of the fact that all of the projects proposed by the Governor have received such positive endorsement from the local sponsoring agencies, it is highly likely that these projects will be given very favorable endorsements by the Board as well. As Chairman of the Board, I can tell you that I whole-heartedly endorse the Governor's concept, and I believe that it establishes a satisfactory mechanism to resolve the Oahe issue and provides a meaningful and satisfactory settlement of the obligation

owed by the United States to the State of South Dakota for South Dakota's contribution to Missouri River Basin development.

This bill, S 1553, is a necessary step in the process that I have just outlined. It paves the way for this State to get past the Oahe arguments and on to the positive approach to development that we South Dakotans so desperately need. The bill has the virtues of providing for the State the kind of settlement that this State believes itself entitled to, and most importantly, it allows the decision of what development should take place to be made by the people of the State of South Dakota.

Mr. Chairman, South Dakota is a state with a great deal of potential. We have the most industrious citizens on earth, we have excellent soils, and we have ample water resources. What we need now is to put these resources together to work for the prosperity of the citizens of this State. We have been troubled by dissension in the past, and we have been guilty of letting our own house disintegrate into disarray. Mr. Chairman, we are on the path toward turning that trend around, and with the actions that we have taken over the last year and a half, we are on the road to a positive acceptable plan of development for this State. Senator Abdnor's bill will provide the necessary legal framework for the citizens and elected officials of this State to transform that new positive direction into the development that this State so desperately needs. Thank you Mr. Chairman.

B92401JS.

Senator MURKOWSKI. Thank you very much, Mr. Helmer.
Thank you, Mr. Neufeld.

Senator, do you have any questions?

Senator ABDNOR. No.

Senator MURKOWSKI. Thank you very much, gentlemen. We appreciate your testimony, and assure you that the full testimony will be entered into the record.

We would call next on Mr. John Sieh, chairman of the Oahe Conservancy Subdistrict Board of Directors, Aberdeen, accompanied by Mr. Leonard Naessig, vice chairman; Arnold Schurr, secretary; Ron Frankenstein, Dale Hargens, Kenneth Marsh, members of the board; and Curt Hohn, manager.

I would invite you to sit down. While we're organizing the next panel, I would like to remind you to make sure that you register at the back of the gymnasium and fill out an address label for a copy of the hearing record.

I neglected to introduce to you Mr. Russ Brown, who's on my right. He is on the professional staff of the Water and Power Subcommittee.

We have testimony being presented to us. It looks rather voluminous.

I might mention that I had the pleasure of accompanying Senator Abdnor to Alaska when he held a hearing in Juneau on the Corps of Engineers and various projects. I can assure you that after taking him out to a logging camp and showing him a glacier and a few Eskimos, that he, too, is a hardy person. And like the rest of us that live in the north country, I guess we're hardy because we have to be.

But I can assure you if you ever get tired of him, why, he'd make a good Alaskan. We'd love to have you, Senator.

Senator ABDNOR. Mr. Chairman, we're going to get you back to South Dakota so you can see some of our State.

Senator MURKOWSKI. I'd love to do that. It's certainly a pleasure, though, to serve with a man as dedicated as Senator Abdnor. It's most gratifying, and Senator, you certainly made an impression in our State.

Senator ABDNOR. Thank you.

Senator MURKOWSKI. I believe that we are now ready to proceed, and I would ask your chairman, I assume that's Mr. John Sieh, to perhaps introduce your subdistrict crew and proceed with your testimony. I wish you all a good morning.

STATEMENT OF JOHN SIEH, CHAIRMAN, OAHE CONSERVANCY SUBDISTRICT BOARD OF DIRECTORS, ABERDEEN, S. DAK.

Mr. SIEH. Thank you very much, Senator. We welcome you to South Dakota, and we certainly appreciate your giving South Dakotans an opportunity to testify on these very important subjects.

Senator MURKOWSKI. It's certainly my pleasure.

Mr. SIEH. The first testimony will be given by the officers of the conservancy district in which we'll briefly summarize the basic positions of the board of directors, and we'll make this brief within your rules, I hope.

Senator MURKOWSKI. Surely.

Mr. SIEH. Then we will call on the other directors of the conservancy district for their individual remarks on whatever subject they wish to testify on.

Senator MURKOWSKI. That would be quite appropriate, Mr. Sieh.

Mr. SIEH. Thank you, Mr. Chairman.

Just a few words acquainting the committee with the relation the Oahe Conservancy District has with water development in South Dakota. Under our statutes, our Conservancy District is basically in charge of water development promotion and financing within a 15-and-a-half-county area. This conservancy district was set up under the South Dakota statute, and it came into being by an election, and not by an act purely of the State legislature, but by an election of the people.

In this particular hearing, we are addressing the Senate bill. And the particular relationship of the Oahe unit project is tied directly to the taxation in the master contract. And I might say at the outset, that I agree very much with Secretary Neufeld that the master contract and the contracts referred to in the Senate bill, in our judgment, cannot be unilaterally abdicated in anyway, nor would we agree to such an abdication of our contractual rights.

We frankly question whether they need to be a part of the bill.

With that brief background on the conservancy district, I would like to comment further on Senate bill 1553. This bill, and the companion bill in the House, deal directly with several projects located within the Oahe Conservancy Subdistrict area. They include the WEB pipeline project, the Oahe unit irrigation project, the Pollock-Herreid irrigation project, and other projects listed in the State water plan in need of construction.

In addition, several other water projects proposed for study in this bill include the CENDAK water proposal, the Lower James-Fort Randall diversion proposal, and the Garrison modification study, all of which affect areas of the conservancy district.

Our specific comments on the bill will be made by Director Naessig in his testimony; however, as chairman of the board, I would like to relate briefly our general position on the legislation.

One, the Oahe Conservancy Subdistrict Board has had a standing position since January 16, 1978 that the Oahe unit irrigation project was unfeasible and unacceptable and should be deauthorized.

Two, the Oahe Conservancy Subdistrict supported the first deauthorization legislation introduced in the Congress in 1978 by then South Dakota Senator James Abourezk.

Three, the Oahe irrigation project, as authorized by law, represents a physical, legal and financial obligation on the resources, people and taxes of the Oahe Conservancy Subdistrict area. And the subdistrict does not and will not support legislation which retains and continues to leave authorized the present Oahe unit irrigation project as planned and designed indefinitely.

We would support partial deauthorization which would remove from the authorization those features which are only needed to deliver water to the Oahe unit in the Lake Plain area of Brown and Spink Counties.

Four, our political officials and others tell us that they have no intention to construct the old Oahe project. Then we believe that they should have no problem supporting the position outlined by the subdistrict.

Now recently there's been some new interesting developments. We have the letter from David Stockman to Representative Roberts which puts the very value of the authorization of the old Oahe project in question. We have been continually told that we must hang on to the authorization not because we are going to build the old plan, but because it holds such tremendous financial benefits that could be converted to other projects; low-cost interest, low-cost power and 90-percent construction subsidies.

Mr. Stockman's letter of September 8, 1981 to Congressman Roberts appears to have changed that situation. It appears to nullify any chance of ever holding onto the 3 $\frac{1}{4}$ percent-interest, the 2 $\frac{1}{2}$ -mill pump power and the 90-percent hydro subsidy.

And I think it would be interesting to quote just a few sections of that letter from Mr. Stockman.

The Oahe Unit was formulated under economic and social conditions different from those that prevail in the 1980s.

While we all recognize South Dakota's special situation, I believe it would be unwise to use outdated standards and procedures to develop water projects to satisfy the needs of the future.

And with regard to section 4 of the bill, Mr. Stockman says:

I want to express my concern that providing low-cost pumping power to additional users may worsen the financial condition of the power system and set an undesirable precedent in the Missouri Basin.

Mr. Stockman's letter does say that the administration would support the funding of WEB without "requiring deauthorization of Oahe as a precondition."

Now, what this means to me is that we can build a WEB without the authorization; however, it also seems to me that there is now no need to hang on to the Oahe authorization because the financial benefits of the authorization apparently cannot be passed on to some other project.

Also, before this hearing, we wrote the Department of the Interior and the Bureau of Reclamation asking them what their interpretation of section 3 of this bill would be if it were passed as written. Would it assure Oahe would not be built? Their letter of August 31, 1981, states:

We do not believe the Bill as written would necessarily remove any features from the existing Oahe Unit authorization.

Now, gentlemen, you can see it does confirm our concern. Section 3 of this bill will not provide assurance that the old Oahe project will not be built.

In conclusion, I would like to tell the committee that this board of directors took its work very seriously. After the environmental impact statement and House Document 163 became public, there was great concern in this area over whether the project had been planned properly.

Elections were held and the board of directors then held six public hearings in which every detail of the project was looked into: Land acquisition; James River hearing; soils and drainage hearing; benefit/

cost hearing; wildlife mitigation hearing; impacts, canalside, contract hearing, and alternative hearings.

And Mr. Chairman, the result of those hearings revealed extensive problems and objections to the Oahe unit. It became apparent that the strongest opposition to the project surprisingly came not from the areas damaged by the canals, even though there was some concern in those areas, but from the areas proposed to be served and benefited from the project.

And we will submit copies with your permission, Mr. Chairman, they're very long, but we would appreciate if they could be put in the file.

Senator MURKOWSKI. They would be retained in the files, but not printed in the record.

Mr. SIEH. Yes; that would be fine. Thank you, Mr. Chairman.

And finally, because of the introduction of the Garrison diversion into this particular bill, our position has been for some time that the Garrison diversion project, there should be some legislation similar to what Senator Pressler introduced a year ago that would define and protect South Dakota's interests in regard to the Garrison diversion project should those return flows not wanted by Canada come our way.

Our position has been very clear for some time that we think that until those assurances are presented in law, further construction of the Garrison project should not be continued until South Dakota receives those legal assurances from the Congress of the United States and the President.

Mr. Chairman, that will conclude my remarks, and I would like to introduce our Secretary, Mr. Leonard Naessig.

[The prepared statement of Mr. Sieh follows:]

Statement By
JOHN SIEH, CHAIRMAN
OAHE CONSERVANCY SUBDISTRICT
BOARD OF DIRECTORS

To The

SENATE SUBCOMMITTEE ON WATER AND POWER
SENATOR FRANK MURKOWSKI, CHAIRMAN
Public Hearings on S-1553
Pierre, South Dakota
September 12, 1981

Mr. Chairman, Members of the Subcommittee. I am John Sieh. I am Chairman of the Oahe Conservancy Subdistrict Board of Directors. I submit this testimony today on behalf of the Oahe Conservancy Subdistrict based upon official positions adopted by the Board regarding various issues included in Senate Bill 1553.

Introduction

Before I get into my testimony, I would like to briefly explain the role the Oahe Conservancy Subdistrict plays in the Oahe Unit Irrigation Project, other water projects or proposals included in this bill, and water resource planning and development in general.

The Oahe Conservancy Subdistrict is a regional water district organized under South Dakota law by the electors of a 15½ county area for the purpose of water resource planning and development. The boundaries of the Subdistrict are shown on the attached map (Exhibit - 1). The Subdistrict is governed by an eleven member Board of Directors elected by rural and municipal residents in non-partisan elections conducted at the general election.

Under South Dakota law, Subdistricts have the authority to develop water projects within their boundaries, ranging from domestic water, flood control, irrigation, watershed development, recreation, and other purposes. As early as 1950 studies were being conducted on the Oahe Unit proposal, and a preliminary project plan had been adopted by 1956 which identified the basic project plan that this Committee has before it today. Much of South Dakota's water law enacted in the late 1950's and early 1960's revolved around the Bureau of Reclamation's planning of the

Oahe Unit.

The Bureau's "1956 - Interior Report on Oahe Unit" points out that in order to develop the Oahe Project some form of taxing and contracting entity would be needed. They recommended that the State Conservancy District be given those powers. In part the 1956 report stated;

"...There is a law in South Dakota which permits the formation of conservancy districts. However, this law does not give such districts a taxing power, without which they are ineffectual for the purpose of managing large irrigation projects or in dealing with the Federal Government.

Soon after review of this report, and if approval is given to continue with detailed investigation of the Unit, the State of South Dakota should be contacted regarding its attitude toward formation of a legal entity that could deal with the Federal Government in the operation of the Oahe Unit. Consideration should be given to the establishment of a Conservancy District that would cover all parts of the State affected by diversion of water from the Missouri River." (Page 113)

"The Act should also provide for a Board of Directors that has the power to:

1. Cooperate with the State of South Dakota and the Federal Government in promoting construction of the Oahe Unit.
2. Furnish assurance of cooperation and as principal and guarantor to enter into contracts with the United States and with public corporations of South Dakota for the performance of obligations with the United States connected with the Oahe Unit.
3. Levy a tax on all taxable valuation in the District for the fulfillment of obligations with the United States.

Soon an Act would provide, in part at least, for cooperation by various types of water users. It would also provide a means for some contribution by all recipients of benefits. It would offer a single entity for the Federal Government to deal with, and it would furnish a broad source of local assistance in operating the Unit during its early stages.

One of the requirements for construction of the Oahe Unit may well be that the State of South Dakota enact a conservancy district law that would be applicable to the operation of the Unit." (Page 114)

As early as 1958 the South Dakota legislature considered a proposal to give the State Conservancy District taxing and contract authority to construct federal projects. That plan was abandoned because of constitutional questions about taxing the entire state for a water project constructed in one area, and because there was not support in the State Legislature for concentration of water resource decisions at the State level by Boards and officials appointed by the Governor.

In 1959, the legislature adopted legislation which would provide for the formation of Conservancy Subdistricts in the State by the local electorate through the referendum and petition process. Conservancy Subdistricts are formed by the people through the elective process. As a result, the Oahe Conservancy Subdistrict was formed in November of 1960, and the Oahe Subdistrict Board held its first meeting in 1961. The Bureau of Reclamation's "Report on Oahe Unit" stated that the State Conservancy District lacked the taxing and contracting authority that was needed for federal irrigation project repayment. The following is a portion of that report:

"South Dakota Conservancy District

In order to further the State's aspirations in the Missouri River Basin Project, the 1959 State Legislature created within the State of South Dakota a conservancy district known as the "South Dakota Conservancy District," the boundaries of which coincide in all particulars with the State of South Dakota. (Reference is made to Chapter 453, South Dakota Session Laws, 1959.) Subdistricts or subdivisions of the district may be formed, through a vote of the local people, to sponsor construction of water-resource projects."
(Page 133)

In reviewing the laws the Bureau report pointed out three shortcomings;

Three important elements which are presently missing from the enabling statute may make it an unsatisfactory instrument for assuming long-term financial responsibility on behalf of the Oahe Unit:

(1) First, a subdistrict of adequate and suitable size to represent the off-the-farm beneficiaries may be virtually impossible to establish. Experience has shown that it is extremely difficult to get general understanding of so complex a development proposal among the voters of any large geographic area. Even so, considerable success has been had in such an informa-

tional task where an entity similar to a subdistrict has been provided by statutes and its own directorate has, with its own finances, done the job. In the case of the South Dakota law, the public must vote on the question of forming a subdistrict before it is ever likely to be informed on the question. (Page 136)

(2) Second, the opportunity for easy withdrawals by election districts, even entire municipalities, regardless of the benefits they are ultimately to receive, offers little prospect that a subdistrict will solidly cover the area that directly benefits from development. Scattered omissions of taxable property within the subdistrict seem almost inevitable. If they should occur, they will detract from the subdistrict's financial capacity and impose an unfair burden on what remains of the subdistrict.

(3) Third, dissolution after a contract has been entered into with the United States would be too easy."
(Page 137)

As a result State laws were strengthened in areas #2 and #3. Problem #1 was never dealt with.

While the law concerning State water law has changed some since that time, the law is basically the same. The State Board still lacks the authority to obligate the state to long term tax contracts. Also, State law specifically recognizes the provision of local control of water resource planning and development as expressed through locally elected Conservancy Subdistricts. As the 1960 Oahe Report, page 134 states:

"The district State Board may construct, operate, and maintain water-resource development works not within a subdistrict...."

"The district board is financed from appropriations by the State Legislature. It has no taxing authority."

Proposals which have been made that the State take over Oahe contracts is obviously neither politically or practically feasible.

Position on Senate Bill 1553

Senate Bill 1553 and its companion bill in the House of Representatives, HR 4347, deal directly with several projects located within the Oahe Conservancy Subdistrict area. They include the WEB Pipeline Project, the Oahe Unit Irrigation Project, the Pollock-Herreid Irrigation Project, and other projects listed in the state water plan in need of

construction funding.

In addition, several other water projects proposed for study in Section 2 of the bill are located in, or would directly effect, the Oahe Conservancy Subdistrict area. These include, the CENDAK Water Proposal, the Lower James-Ft. Randall Diversion Proposal, the Garrison modification study, and others.

We reviewed Senate Bill 1553 when it was still in the "draft" stage. The comments we will offer today on the bill are basically the same as those made on the draft. Specific comments will be made by Director Naessig in his testimony. However, as Chairman of the Subdistrict Board I would like to clarify briefly our position on the legislation.

1. The Oahe Conservancy Subdistrict Board has had a standing position since January 16th, 1978 that the Oahe Unit Irrigation Project, as authorized by Congress in 1968, was unfeasible and unacceptable and should be deauthorized. In that same 1978 position the Subdistrict Board proposed six alternatives for water resource development which would be more acceptable and proposed that the federal financial commitment of Oahe Unit be transferred to those and other projects in the State which could show feasibility, did not result in massive land loss, and enjoyed local support.
2. The Oahe Conservancy Subdistrict supported the first deauthorization legislation introduced in Congress in 1978 by then South Dakota Senator James Abourezk which called for deauthorization of the project, return of the land to the original owners, and waiver of incur red costs. We have supported similar legislation reintroduced in 1979 and 1980 by Iowa Congressman Berkley Bedell. Deauthorization of Oahe Unit still stands as Board Policy on Oahe Unit.
3. The Oahe Irrigation Project, as authorized in law, represents a physical, legal, and financial obligation on the resources, people, and taxes of the Oahe Conservancy Subdistrict area. It is the Board's position that until such time as the Oahe authorized plan, or at the very least a major part of it, is removed from law, the subdistrict is threatened with a project it does not desire and cannot support. The Subdistrict does not and will not support legislation which retains and continues to leave authorized the present Oahe Unit Irrigation Project as planned and designed indefinitely. We would support some partial deauthorization which would remove from the

authorization those features (canals, reservoirs, etc.) which are only needed to deliver water to Oahe Unit in the Lake Plain area of Brown and Spink Counties, which strikes specific physical features of the Oahe Plan from the 1968 authorization and gives legal assurance that they shall not be constructed under any circumstances.

4. Our political officials and others tell us they have no intention of constructing the old Oahe Project. They then should have no problem supporting the position outlined by the Subdistrict, which would remove the threat of irrigation in the Brown-Spink County Lake Plain area while retaining (1) part of the features where construction has initiated, and (2) the financial aspects of the authorization. The point is this... legally the only thing the canals, reservoirs, and pumping plants can be constructed for is to serve irrigation in the West and East Lake Plains of Brown and Spink Counties. Until that is removed from law our position is unchanged.

The Subdistrict has made an overture in good faith in hopes that a settlement can be reached which would put the Oahe Project behind us and give other water projects in South Dakota an opportunity to move ahead. The Oahe controversy has set water development back in South Dakota because for too long we have used our resources in an effort to construct a project which died years ago.

Stockman Letters

Several developments have occurred which would indicate that circumstances surrounding the value of the Oahe authorization must have changed.

We have continually been told that we must hang onto the Oahe authorization not because we are going to build the old plan, but because it holds such tremendous financial benefits, that could be converted to other projects; low cost interest, low cost power, and 90% construction subsidy.

Mr. Stockman's letter of September 8, 1981, to Congressman Roberts appears to have changed that situation. It appears to nullify any chance of ever holding onto the 3 1/4% interest, 2.5 mills pump power, and 90% hydro subsidy. In fact it even appears to limit administration support for studies. In part it states:

Mr. John Sieh - Testimony - Senate Subcommittee on Water & Power

"...I am concerned about the open-ended study authorization in S 1553/H.R. 4347, and urge you to continue to work with the Department of the Interior to come up with a specific set of study proposals."

"Section 2 of the bill also states that criteria "no less favorable than those under which the Oahe Unit, initial stage, was authorized" shall be used in evaluating the feasibility of any projects resulting from studies authorized by the bills, unless the State agrees to others. The Oahe Unit was formulated under economic and social conditions different from those that prevail in the 1980's. For example, a discount rate of 3 1/4% for computing present value of costs and benefits is clearly inappropriate today. While we all recognize South Dakota's special situation, I believe it would be unwise to use outdated standards and procedures to develop water projects to satisfy the needs of the future."

With regard to Section 4 it states:

"...I want to express my concern that providing low-cost pumping power to additional users may worsen the financial condition of the power system and set an undesirable precedent in the Missouri Basin."

Mr. Stockman's letter does say that the Administration would support funding of WEB without ..."requiring deauthorization of Oahe as a precondition." He also states their support for removing the obligation from the West Brown and Spink Irrigation Districts providing:

"...Section 3 were modified to include a guarantee that the costs of the Oahe investment to date would be treated as part of the costs of any alternate project using Oahe facilities..."

What this says to me is that we can build WEB without deauthorizing Oahe. There is no need to hang on to the Oahe authorization because the financial benefits of the authorization cannot be passed to some other project. Also, before this hearing, we wrote the Department of Interior and the Bureau of Reclamation asking them what their interpretation of Section 3 of this bill would be if it were passed as written. Would it assure Oahe would not be built? Their letter of August 31, 1981, states:

"We do not believe the bill as written would necessarily remove any features from the existing Oahe Unit authorization. In our opinion, determination of the specific features on which construction would be forbidden by section 3(b), because their only use would be to deliver water to the West Brown and Spink Irrigation Districts, should depend on the outcome of the studies to be authorized by section 2 of the bill."

Mr. John Sieh - Testimony - Senate Subcommittee on Water & Power

It confirms our concern. Section 3 of this bill will not provide assurances that the old Oahe Project will not be built.

\$41 Million - Incurred Costs

It should be pointed out that the Oahe Conservancy Subdistrict asked, in fact begged the Bureau of Reclamation not to release construction contracts in 1976 which resulted in the bulk of the \$40 million in costs attributed to the project. An over zealous Bureau of Reclamation Commissioner, Mr. Stamm, and a Congressional Delegation reluctant to stop the commitment of construction dollars in hopes that it might be the foot in the door that the project needed, disregarded the Subdistrict's plea and released those construction contracts. As a result over \$25 million in construction costs were unnecessarily incurred with the remaining \$15 million being accumulation of Bureau of Reclamation studies and salaries. We hardly feel responsible for those costs, and if the Bureau had followed our request the expense would not have been incurred. We do not accept the responsibility for them, and would strenuously object in court if necessary to repayment of any portion. The federal Bureaucracy did not respond to the local contracting entity in this case, and therefore the federal government accepts full responsibility for the cost.

If S-1553 is to succeed this, Section 3 is going to have to be resolved. While there may be some common ground where at least part of the authorization could be left intact. The bottom line is those Oahe features described in the 1968 authorization through HD 163, which are not remotely needed for something like CENDAK, have to be completely deauthorized. If this is not done, all SB 1553 would be doing would be continuing the Oahe Project indefinitely. It would be allowing the present threat of a bad project remain on the local districts, while other proposals and projects were studied and restudied. That is continuing Oahe. That is unacceptable. If we cannot do better than that then I think we have an impass and should simply deauthorize Oahe Unit. Mr. Naessig will submit proposed amendments we feel will resolve this point. We hope they will be given the support of this Committee.

Oahe Hearings

I would like to explain, briefly, the procedure the Oahe Conservancy Subdistrict followed in reaching its decision on Oahe Project. By the time the Subdistrict was formed in 1960, several studies had already been completed on Oahe Unit and a plan developed. In 1966 the Subdistrict law was changed so that the Subdistrict Board could obtain contract authority without placing the contract on the ballot for a vote of the electorate. Subsequently, the voters of the Oahe Subdistrict never did vote on the Master Contract which obligates them to Oahe Unit. That change in law was made at the suggestion of the Bureau of Reclamation.

In 1967 and 1968 Congress held hearings on Oahe Unit and authorized the project through Public Law 90-453. In January of 1969, the Oahe Unit Master Contract between the Oahe Conservancy Subdistrict and the U.S. Government was signed. Similar contracts were signed the same year with the Spink County and West Brown Irrigation Districts. The "Definite Plan Report" and the "Environmental Impact Statement" were released in 1971 and 1973. It was after these documents were made public that public opposition to the project surfaced.

I had supported the project initially thinking it would solve flooding problems on the James River. After looking closer at the project plans, I began to realize, along with many others, that the project was not what it had been presented to be. In 1974, I was elected to the Subdistrict Board representing Brown County. In 1975, the first land was acquired for the project in the Pierre Canal area amid growing opposition to the project. In 1976, local farmers and other groups requested that the Legislature authorize a referendum on Oahe Unit within the project area to determine whether construction of the project should be halted. Legislation passed the House but failed in the State Senate after strenuous lobby effort by construction interests, the Congressional Delegation, and the Governor. The people of the Subdistrict were told that the Subdistrict Board elections should serve as a referendum.

So, in 1976, in one of the driest years on record, a slate of candidates was elected to the Subdistrict Board all either opposing or questioning the project. In spite of this change in the majority on the Board, the Bureau of Reclamation released a notice within 15 days following the election that they would be letting contracts on construction of the Pierre Canal. Oahe Subdistrict Directors-elect, sent a letter to

members of the Congressional Delegation and to the Commissioner of the Bureau of Reclamation request that no construction contracts be let until the Board had had a chance to hold review hearings on the project. The Bureau of Reclamation disregarded the wishes of the local contracting entity and proceeded with the letting of the construction contracts. The result was that an unnecessary expenditure of federal tax funds was made.

In January of 1977, the newly constituted Subdistrict Board called for seven public review hearings on Oahe Unit, and asked Congress and the Administration to provide and appropriate no funds for construction of the project until that local review was completed. Hearings were held within the project area from February 3rd to April 28, 1977, and were held on the topics of:

1. Land Acquisition Hearing - February 3, 1977
2. James River Hearing - February 16, 1977
3. Soils and Drainage Hearing - March 7, 1977
4. Benefit/Cost Hearing - March 17, 1977
5. Wildlife Mitigation Hearing - March 31, 1977
6. Impacts, Canalside, Contracts Hearing - April 14, 1977
7. Alternatives Hearing - April 28, 1977

The result of these hearings revealed extensive problems and objections to Oahe Unit, as well as extensive local opposition to the project in the areas of tax obligation, land loss, impact to school districts, and drainage. It became apparent that the strongest opposition to the project came not from the areas damaged by the canals, but from the areas proposed to be served by the project. The farmers in the West Brown and Spink County Irrigation areas, who were supposed to receive the benefits.

We submit copies of these seven hearings for your consideration, and ask that they be included in the file of the hearing. Following this hearing process the Oahe Conservancy Subdistrict Board adopted specific findings and recommendations for each of the hearings held; and on May 21, 1977 adopted the following position,

"That the plan and concept of Oahe Unit, to deliver irrigation water to northern central South Dakota via 200 miles of open canals and reservoirs is not acceptable and is not worthy of further Congressional funding and support...."

The Board requested that funding and support be granted for 6 alternatives which it felt would better serve the needs of the people of the Oahe Subdistrict area including:

1. riverside irrigation along-side the Missouri River
2. rural and municipal domestic water pipelines
3. watershed programs in the James River Basin
4. irrigation through small reclamation act
5. a management plan for James River flows
6. broadening of water conservation programs.

In November of 1977, the Oahe Conservancy Subdistrict and the representatives of the Bureau of Reclamation met in Aberdeen, S.D. and discussed possible alternative studies of Oahe Unit. In the April 28, 1977 "Alternatives Hearings" the Bureau had testified...

"Alternative federal multipurpose projects similar in size, scope, and average cost per acre to the authorized 190,000 acre Oahe Unit are essentially nonexistent in the 15½ county area. When considering factors such as: size, compactness of the service area, suitability of soils, subsurface drainability, pump lifts, adaptability of topographical features, and suitable water supply, it becomes impossible to locate a feasible alternative of similar magnitude within the geographical boundary of the Oahe Conservancy Subdistrict."
(Page A-10)

In November, the Bureau proposed further study of Oahe Unit, study of the Lower James Proposal, and a first phase development through Blunt Reservoir and others. The Subdistrict objected to further study of Oahe Unit and requested funding for study of the six alternatives previously mentioned. An Interior Solicitors Opinion stated that left-over Oahe construction funds could only be used to study features within the existing Oahe authorization. Further, that alternatives beyond the existing authorization would require new authorization by Congress. It became clear that the authorization could only be used for Oahe, and that any new project would require reauthorization.

January 16, 1978, the Oahe Conservancy Subdistrict Board adopted a resolution calling for immediate deauthorization of Oahe Unit, and redirection of federal financial commitment Oahe represents to other water projects in the state which enjoy local support and need construction funds. Termination studies of Oahe Unit were conducted in 1979 and 1980 by the Department of Interior through the Bureau of Reclamation. The Bureau's termination study overstated the costs of termination in an effort to delay that action.

Oahe Settlement

In October of 1979 the Office of Management and Budget proposed that

they would support funding for the WEB project and other projects as part of an Oahe settlement. In March of 1980 meetings were held with the Secretary of Interior and by July, 1980 an Oahe settlement process had been worked out in correspondence between the Congressional Delegation and the Interior Department where-by funding for WEB and other water projects would be available as part of an Oahe deauthorization settlement. As a result, the WEB project was authorized in the fall of 1980, and signed into law by the President. The State Legislature proceeded to establish a State Water Plan based on this legislation as shown by the attached news clippings. First year funding of \$1.9 million for WEB was supposed to be available as early as January of this year. The money had been transferred to the regional FmHA office which was to supervise construction. The agreement hinged on an acceptable Oahe deauthorization settlement being negotiated between the state and Interior by September 30 of this year. Following the election of the new administration, members of the Congressional Delegation had hopes that more could be obtained in terms of federal funding. The agreement was either neglected or they failed to take action in expediting the settlement process. As a result, the House and Senate Conference Committee voted to freeze WEB construction funds until Oahe was deauthorized.

Finally, we come to the point where we are today. The Oahe project is at a stand still. All three primary contracting parties, the Oahe Sub-district, the Spink County Irrigation District, and the West Brown Irrigation District have asked that it be deauthorized. WEB and other water development funding is at a stand still. And, the Congressional delegation has introduced S 1553 as an attempt to find an acceptable process for getting the Oahe settlement started again.

Senate Bill 1533

I have been asked to also address key points in the legislation. Over the years the Sub-district has received considerable legal advise and counsel on the legal position of the "Master Contract". The Oahe Unit Master Contract between the Sub-district and the federal government was approved and signed by both parties, and ratified by the South Dakota Legislature, the Hughes County Circuit Court all in 1969. In 1971 the South Dakota Supreme Court and the State Legislature validated and ratified the Master Contract.

I raise this point, because it has been stated by State officials, and implied in this legislation (section 3), that the contracts related to Oahe Unit could be taken from the contracting parties and transferred to another interest such as the State, without the Sub-district consent. This is not the case. The Master Contract is a legal contract which binds all parties. We have not violated the contract. We would not object to releasing the Master Contract provided that specific features of Oahe Unit as authorized were removed from the authorization, and legal assurance were given that the project would not be constructed as currently planned to Brown and Spink Counties.

Interior Solicitor's opinions have stated that the only acceptable way to terminate contracts would be through bilateral termination, agreeable to all parties. We accepted that opinion several years ago when it was written and we will hold by it now against unilateral termination.

In addition, House Document 163, which serves as the authorizing document for Oahe Unit, specifically states that the present authorization adopted by Congress in 1958 authorized the following:

".....The initial stage Oahe Unit would be a multi-purpose development serving municipal and industrial water supply to 17 towns and cities in and near the unit, flood control, recreation, and fish and wildlife conservation functions in addition to irrigation."

"....the 190,000 acres proposed for irrigation in the Initial Stage lie in the Lake Plain area adjacent to the James River in Brown and Spink Counties in north-eastern South Dakota..."
(page XXIV, House Document 163)

"...the principal purpose of the unit is irrigation. The area to be irrigated in the initial stage comprises 125 acres in the West Lake Plain and 65,000 acres in the southern part of the East Lake Plain." (page 25, House Document 163)

"...included in the principal supply works for the initial stage are three regulating reservoirs, one diversion dam, two pumping plants, four main canals, and the channel improvements of the James River. The canals, reservoirs, and channel improvement would be constructed at the capacity required for full development of Oahe Unit....."

From these and other references and maps it is clear that if the project were to remain in place pending one or several studies, there would be no protection or assurance that Oahe would not still be built.

Garrison Study

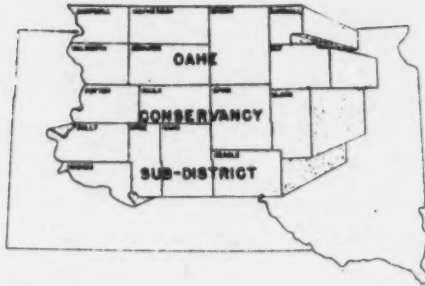
Since 1977 the Oahe Conservancy Sub-district, along with other interests in South Dakota, have expressed concern with the possible impacts of redirection of Garrison return flows into South Dakota via the James River. The Sub-district's position is that federal legislation should be secured which would mandate that the Garrison Project not (1) degrade the quality of James River waters, (2) aggravate, extend, or increase flooding on the James River, (3) reduce irrigation water available, (4) reduce the wildlife and fisheries of the James River, (5) reduce the recreational values of the river, or (6) in general cause damage to South Dakota interests within our boundaries. In the even the project is operated to the detriment of South Dakota interests, that specific recourse be provided individuals, local entities, the State, and others damaged.

Talk of extending the Garrison Project into the Oahe Subdistrict and South Dakota is premature until the above legislation is obtained. Garrison EIS statements do not adequately address impacts to South Dakota and the James River. Infact, it virtually avoids addressing what effect the Project will have beyond the North Dakota - South Dakota line. NO CONSTRUCTION contracts should be let on features of the Garrison Project which will affect the James River in South Dakota until an adequate Environmental Impact Statement has been completed, and South Dakota interests are given adequate time to become familiar with the impacts it will have on their area.

Studies conducted on Garrison modification in South Dakota should be directed by an organization of local governments. We have established a local planning board under the "Joint Powers Act". tp study potential modification of the Garrison project which might be acceptable to the broad local community in upper reaches of the James River, most effected by any Garrison plan. This group, entitled the James River Engineering and Management Board includes one representative from five towns, six landowner and farm organizations, and the Sub-district.

Thank you for allowing all South Dakotan's this opportunity to present testimony on Oahe deauthorization and other water related matters.

F. - Gresham
 Chairman
 /ERBY - Mellette
 Vice Chairman
 R. - Carpenter
 Secretary
 VHORST - Crawford
 Treasurer
 IN
 Manager
 986
 ID 67401
 08/736-1130



DIRECTORS
 DOUG BECKETT - Miller
 R. B. HIPPLE - Pierre
 MIKE MADDEN - Mound City
 LEONARD NAESSIG - Webster
 GLENN OVERBY - Mellette
 BILL PIPER - Carpenter
 ARNOLD SCHURR - Roscoe
 JOHN SIEN - Gresham
 SIEG SWANHORST - Crawford
 STEVE THORSON - Aberdeen
 JEROME YACKLEY - Oahe

O: Oahe BOARD MEMBERS
 ROM: CURT HOHN
 E: COST/BENEFIT HEARING (information)

Note: The following is a draft paper I have prepared from information we have available in the office that I am aware concerning the way in which cost/benefit is figured by the Bureau of Reclamation in the Oahe Project as well as comments from various papers developed by economists. It is not, nor is it meant to be, a conclusive document on cost/benefit. Rather it is an effort to gather information available together for your review prior to the hearing.

Information taken from a report by Dr. Calvin Kent, U.S.D. an economist and advisor to the State Legislature and the Governor on tax legislation...December 9, 1974. "The Economics of the Oahe Project"

Public law requires that before a government program is undertaken it must be demonstrated that the project is worth what it will cost. All federal projects, including irrigation projects are subject to this law and require a cost/benefit review. The basic idea behind cost/benefit analysis is simple: Does a dollar spent on this project produce at least one dollar worth of benefits...or how does it have a cost/benefit ratio of \$1.00 to \$1.00.

In determining cost/benefit an economist substitutes "revenue" the usual measure for benefit with the term "social benefit" which means anything that improves the well being of Man. The word "expenditure" usually considered the measure of cost is substituted with "opportunity cost"...which is what the dollar expended or spent could purchase if put to an alternative use by government other than the project.

BENEFITS:

The first step in determining cost/benefit is to estimate in dollars and cents the benefits the project will bring in. There are two types of benefits:

Direct: What the project was designed to produce (in this case, irrigation and some municipal water and recreation)

The President's Water Resources Council has recommended a discount rate of $6 \frac{7}{8}$ ths on projects like Oahe. Currently the Bureau figures a rate of $3 \frac{1}{4}$ %. Federal law contains a "grand father" clause which allows projects which are authorized but not constructed to be evaluated on this basis of the discount rate that was in effect when the project was first analyzed rather than at present rates. (Put simply...it would be like buying a car today using interest rates figured in 1968. It's a good deal if you can get it...but not very realistic). In 1971 the Bureau re-evaluated Oahe using the discount rate of $3 \frac{1}{4}$ percent. Benefits dropped to \$1.30 for every \$1.00 spent (or Cost/Benefit of 1 to 1.3).

The John Hopkins University did a study re-evaluating Oahe using the discount rate of $4 \frac{7}{8}$ ths percent set by the Water Resources Council for projects that year (1971) and the benefits for Oahe dropped to sixty nine cents benefit for every dollar spent (a cost/benefit of 1 to .69). Dr. Kent ended his paper by saying "...This author notes that controversy like the one over cost/benefit arises because cost/benefit studies are done on projects by advocacy groups (agencies that build them). Small wonder the results of the studies reflect the policy positions of the organization which asked that they be built."...in this case the Bureau.

THE BUREAU OF RECLAMATION:

In 1976, Congressional Appropriations Committees requested that fiscal year 1976 Budget justifications include and up-date benefit/cost ratios. It was based on the following:

- 3 1/4% discount rate
- Costs at 1974 level
- Irrigation benefits based on the Ft. Thompson-Grass Rope Unit (a study completed in that area of the State by the Bureau) which price levels from 1960-1964 adjusted to 1969-1973 price levels
- Municipal and industrial, recreation, fish and wildlife, flood control, and area development benefits up-dated based on a ratio the Bureau determined based on 1971 plans.

The result was...Cost/Benefit ratio \$1.00 cost for every \$2.60 benefit on total benefits...and \$1.00 cost to every \$1.50 benefits based just on direct irrigation benefits.

On the following page #1 shows the total annual project costs used to figure the cost/benefit as increased twenty-eight per cent from 1970 prices to 1974 prices.

#2 shows direct benefits from irrigation 1970 to 1974 increasing fifty-one percent and #3 shows total benefits increasing sixty-seven percent. Item #4 shows how the cost/benefit is figured for 1970.

Year 1970

DIRECT: \$13,368,700 ÷ \$10,448,200 = 1.3 cost/benefit

TOTAL: \$21,277,700 ÷ \$10,448,200 = 2.0 cost/benefit

Year 1974

DIRECT: \$20,158,500 ÷ \$13,363,200 = 1.5 cost/benefit

TOTAL: \$35,362,800 ÷ \$13,363,200 = 2.6 cost/benefit

In a letter dated August 14, 1975, to Dr. Russell Berry, the regional supervisor of Power for the Bureau, James Davis explained the way in which they justified figures used to obtain cost benefit ratios. Parity was determined this way:

	Average Prices Paid	Averages	Prices Received	Parity
1960 - 64	307	+	240	= 78%
1969 - 73	422	+	320	= 76%

(Using 1910-14 prices as equaling 100% parity)

Previously the project had been figured at ninety-five percent parity by the Bureau which was unrealistic (House Document 163, page 144). The new parity is closer to reality of what farmers prices paid and receive really is. It appears to compensate for this (considering cost/benefit ratio) the Bureau estimated yields higher than they had in the past.

<u>Yields with Oahe</u>				<u>Yield without Project</u>		
grain (bu.)	<u>old</u>	<u>new</u>	<u>increase</u>	<u>old</u>	<u>new</u>	<u>increase</u>
	82 bu.	152 bu.	85%	28 bu.	42 bu.	50%
Silage (ton)	15.4	22.6	47%	6.0	8.0	33%
<u>Effects of Irrigation</u>				<u>Increase over Dry Land</u>		
grain (bu.)	<u>old</u>	<u>new</u>				
	54 bu.	110 bu.		103 percent		
silage (ton)	9.4	14.6		55 percent		

ort, they give irrigated land greater credit and increase than they dry land in this same period.

follow through on the Bureau's estimate of production, we checked with the Dakota Crop and Livestock Reporting Service for yields of irrigated in the years 1973 and 1974. The Bureau's estimate and the actual yields compared below.

	Bureau's New Estimate	Brown Co. 1973 1974		Spink Co. 1973 1974		State Average 1973 1974	
- grain els/acre	152 bu.	115	90	91	64	98	84
1fa Hay - acre	6.9			5.0	4.5	3.1	3.1
bu/acre	119					65	49
ey/bu acre	89					45	34

HOPKINS UNIVERSITY STUDY

1974, a study by three economists at John Hopkins University in Maryland conducted an economic re-evaluation of the Oahe Unit and testified in the case United Family Farmers vs Department of Interior. Of the three economists, one man, Robert K. Davis is presently employed as economist with U.S. Department of Interior. The following are their findings. "They estimate that the Bureau had altered cost/benefit analysis to improve the appearance of projects under their control." To do this they claim:

1. The Bureau improperly specified the cost of borrowing to the farmers at four percent interest. It should have been figured at no less than 7.5 percent. This would drop the cost/benefit from 1.28 to 1.13.
2. The Bureau estimates the cost of hired labor at \$1.00 per hour... which is very low, and considers the extra time the farmer and his family puts in at no value at all. Adjusting this element to a realistic estimate the John Hopkins economist show that the cost/benefit would drop still further to 1.03 to 1.00.
3. The Bureau incorrectly used 2.5 mills as the cost of lost power generation at the Oahe Dam and completely ignored the cost of lost generation capacity down stream. They adjusted the loss to 11.55 mills and eliminated the assigned cost of the project bringing the cost benefit to .94 cents to \$1.00.
4. They faulted the Bureau for using overstated market prices for benefits and understated costs in evaluating farm budgets... and...
5. Claimed the Bureau used low discount rates for long periods of analysis.

In points four and five the John Hopkins economists stated that the Bureau was using a much too high rate of parity (94%) and a much too low discount rate. "These estimates indicate that the project should not have been justified when the Bureau reanalyzed it in 1971", they said.

ing the best estimates available today (March, 1974) on long run
es the project still does not appear to achieve a cost/benefit ratio
ter than one to one."

economists went on to say that through discounting the cost of land
for construction of the project was understated and the benefit
and in the project area (190,000 acres) was over stated. The Bur-
estimated \$78.72 additional net revenue per acre to irrigator farmers
use of the project. They also were critical of the Bureau's
mption that the project would serve as a source of jobs for unem-
ed indians in South Dakota.

study showed that additional demands on existing power generation
bility combined with the increase in power use the project it'self
d use (for pumps and farm systems) the Bureau under estimated the
st that the project would have on overall power generation. The
u claimed the 444,000 acre feet of water used by the project and
to power generation on the Missouri River would be replaced at
lro rate.....the Johns Hopkins economists felt that the power would
to be replaced by coal generated power at a higher rate. They also
that the Bureau should have deducted the impact of government price
rts in determining prices for certain crops.

unt Rate

iscount Rate has ranged from 2 7/8 in 1960 to 6 7/8 suggested in
by the President's Water Resource Council. In the early 1960's
over dicount rate was accepted as necessary to provide needed
l projects for future generations. In 1968 policy and economic
ure changed the rate increasing it and it has increased since.

7/8 rate approved by the President's council in 1973 the stand-
as been eliminated by a provision in the Omnibus Rivers and Har-
Bill which contains a grand father clause which exempts projects
ly authorized (like Oahe). "The Bureau of Reclamation is protect-
ne Oahe Unit from an unacceptable Cost/Benefit ratio" they said
ilizing the grand father clause"...and avoiding the higher more
stic rate.

ureau uses the 100 year time period to evaluated the project. These
ists questioned this aspect saying that considering the constant
logical developments of this country it is questionable whether
the project will be operational 100 years after it's completion.

omputed the discount rate for the Oahe Project using the low
nt rate that the Bureau used in their calculations and then
orrections in the base information to show what would happen
cost benefit ratio if their estimates were corrected.

Benefit-Cost

's estimate of direct benefits without change	1.28 to 1
ed farm capitol estimate from 4% to 7%	1.13 to 1
ing labor cost estimates up to \$1.00 per hr	1.03 to 1
ing power estimates	.94 to 1

Exhibit Two

Retyped for the Record

A-9

STATEMENT BY
P.L. FUNKHOUSER, JR.
OAHE CONSERVANCY SUB-DISTRICT MEETING
GETTYSBURG, SOUTH DAKOTA
April 28, 1977

I think most of the Board recognizes that the Oahe Unit was authorized by Congress in 1968 and in the authorization process Congress considered many alternatives before and during 1968. It is also important to recognize that Congress appropriated funds in 1972 in accordance with the authorized plan and has continued to appropriate funds for construction through 1977.

I am sure the Board is equally aware that Congress passed the National Environmental Policy Act (NEPA) in late 1969.

To comply with NEPA, an Environmental Statement was prepared which included a chapter on alternatives. Because the project had been authorized, the alternatives chapter contained a review of the authorized project, of decisions that resulted in the plan for the authorized project, and of alternatives to specific features, and consideration of no development and curtailed development alternatives. The adequacy of this consideration of alternatives was tested in court as one of the principal causes of action in the court case United Family Farmers v. Morton, et al., CIV 74-3016.

Plaintiffs claimed that the Environmental Statement of the Initial Stage, Oahe Unit, did not comply with the National Environmental Policy Act. Of course, the Board is cognizant of the fact that the Court ruled in favor of the United States on this allegation and on all of the other causes of action brought by the United Family Farmers.

Dealing more specifically with your concerns, your letter of April 10, 1977, posed 10 questions:

1. "What is the comparison of cost of the present plan of open main supply works to a pipe system from Pierre to Cresbard? Have there been any studies made on a pipe versus a canal? If so, would you provide us a copy of the study prior to the Alternatives Hearing?"

The open main supply works from Pierre to Cresbard consists of Oahe Pumping Plant, Pierre Canal, Blunt Dam and Reservoir, and the Highmore and Faulkton Canals. Approximate combined cost of the current open channel design for the Pierre, Highmore, and Faulkton Canals is \$63 million.

If the canals were replaced by large diameter pipe from 16 feet to 24 feet in diameter using gravity flow, pipe lines would cost approximately \$1.2 billion (20 times the cost of open canals).

A-10

On a cost-per-acre basis, the three open canals cost \$320 per acre. On the same basis, the pipelines would cost \$6,200 per acre.

The total estimated cost of all Oahe Unit open canals is \$107 million, or \$560 per irrigable acre. Replacing all the canals with pipe, using the same head as is available to the open canals would cost \$2.4 billion; that is \$12.0 per irrigable acre for the 190,000-acre project. The pipelines would cost over 20 times the cost of the open canal.

2. "What alternatives do the Bureau of Reclamation feel could be made in the Oahe Unit within the present authorization plan?"

Alternatives that could be made within the present authorization need to be analyzed on an individual basis to determine environmental impacts, economics, and compatibility with congressional authorization and contractual arrangements. The results of the analyses would then be reviewed with congressional committees for appropriate action.

Examples of alternatives that are being considered and could be considered are:

- A. Alternative dam and reservoir site for Byron Reservoir.
 - B. Alternatives to the authorized channel modification project for the James River through the project area.
 - C. Lowering of the outlet from Blunt Reservoir to Highway Canal to provide additional capacity for greater flexibility in the operation of the Oahe Unit System Supply.
3. "What alternatives exist in the 15½ county Oahe Sub-District area for irrigation development?"

Alternative federal multipurpose projects similar in size, scope, and average cost per acre to the authorized 190,000-acre Oahe Unit are essentially nonexistent in the 15½-county area. When considering factors such as: size, compactness of service area, suitability of soils, subsurface drainability, pump lifts, adaptability of topographical features, and source of suitable water supply, it becomes impossible to locate a feasible alternative of similar magnitude within the geographical boundary of the Oahe Conservancy Sub-District.

Along with South Dakota and Sub-District leaders, Bureau of Reclamation engineers, soil scientists, economists, and other technical personnel spent nearly two decades in search of more favorable alternatives before selecting the present plan for submittal to Congress for construction authorization.

Senator MURKOWSKI. Thank you, Mr. Sieh. Please proceed.

**STATEMENT OF LEONARD NAESSIG, VICE CHAIRMAN, OAHE
CONSERVANCY SUBDISTRICT BOARD OF DIRECTORS**

Mr. NAESSIG. Thank you, John.

Mr. Chairman, Senator Abdnor, my name is Leonard Naessig. I live on a farm near Webster, S. Dak., and serve as vice chairman on the Oahe Conservancy Subdistrict Board of Directors. Also, I'm chairman of the rural and domestic water committee on this board.

You have a copy of my testimony, but I feel that I should try to get some of the highlights of it and point out a few things as far as our feeling on the bill is concerned.

On the WEB project, section 1(a) of the bill, our board's conclusion and study of the WEB organization was requested in their testimony.

In alternative uses, section 2(a), specific language should be included in the bill to return unused lands back to the original landowner and the country tax rolls.

On the Garrison study, we question why that section (a), we question why any potential funding that might be available through an Oahe settlement should be used to fund study of redirection of the Garrison project south. And that cost obviously would be a cost related to the Garrison project.

Also, before any thought of extending Garrison return flows into South Dakota is considered, the Garrison authorization should be amended or reauthorized to protect South Dakota from any adverse impacts such as wildlife mitigation, flooding, and so forth.

As far as the Pollock-Harreid study is concerned, section 2(a), we feel the local sponsors would have to accept and endorse this language before the Subdistrict would support it.

The State water plan, there are 40 water projects in the State water management system, at least 12 of which have been fully studied and are in need of construction funding. We would recommend that section 2(a) to be amended to read as follows:

Any other water project or projects which have been included by the Legislature in the State Water Plan shall qualify for study funding and construction funding under this act, providing their project meets the feasibility requirements of the appropriate federal agency which deals with that type of project.

Preserving low interest and hydro subsidy, Section 2(b), it should not be preserved only for irrigation, but should include other projects.

Cancellation of the contract, we would support section 3 if it were clarified by listing the features that would be dropped, and I will mention them: Byron Dam and Reservoir; Byron Pumping Plant; James Canal; East Main Canal; Redfield Canal; West Main Canal; Cresbard Canal; Cresbard Dam and Reservoir; Faulkton Canal; James River siphon; Blunt Dam and Reservoir; West Lake plan irrigation; East Lake plain irrigation.

Reserve low-cost power, section 4, the Oahe Conservancy District supports this section of the draft as written.

In domestic water, out of which is the top priority as far as the subdistrict is concerned, there are a few shortcomings that are written up in the Oahe unit. The authorization of the Oahe unit initial stage authorized 17 communities to take advantage of the water from the Oahe project. Of the 17 communities authorized, only Huron, Aber-

deen, and Mitchell have the ability to treat Oahe unit water for populations over 2,500. It is unlikely that towns below 2,500 population would have the financial capacity to afford to build a 7-month supply reservoir and a surface water purification plant.

Municipal and industrial users will be required to pay all works needed at and beyond the canalside delivery point.

The cities of Miller and Redfield were evaluated in the Bureau of Reclamation report including reports on Miller and Redfield water supply alternatives that stated a cost of \$1,868,500 investment for Redfield and \$4,131,000 for Miller to pay for costs of water storage facilities, raw water pipelines, pumps, treatment plants in order to be able to utilize water for Oahe. These figures do not include the cost of the water to be purchased.

M&I water user repayment, the Bureau of Reclamation's "Definite Plan Report on Initial Stage Oahe Unit" states, "All costs allocated to municipal-industrial water will be repaid with interest within a 50-year period from the date of initial delivery to each municipality."

Alternatives to Oahe as far as municipal-industrial water is concerned, of the 17 towns authorized for Oahe Unit water, 10 towns could receive water supplies from construction of the WEB pipeline. The city of Aberdeen could receive some 273 million gallons yearly on an off-peak basis from WEB, and is additionally looking at developing groundwater, expanding the present capacity of existing dams, and reviewing options of receiving water from the Garrison irrigation unit.

The remaining towns not served by WEB include Mitchell, which is considering the development of a Missouri River pipeline system and Garrison return flows; Miller, which could be supplied by a Missouri River pipeline or potentially served by a desalination of existing groundwater.

The town of St. Lawrence could make use of that, too.

WATER USES AND COSTS

Senator MURKOWSKI. Mr. Naessig, could I ask that you summarize your remaining remarks, please.

Mr. NAESSIG. OK, thank you.

Oahe unit wildlife mitigation, one aspect of the Oahe unit irrigation project which caused concern was the impact proposed acquisition of productive farmland for wildlife mitigation purposes to replace natural habitat lost to construction of Oahe unit features.

Counties like the one I represent, Day and Marshall Counties, were scheduled to lose thousands of acres of prime farmland to the Oahe project to provide wetland areas to replace natural areas which would be destroyed by project canals, reservoirs, and irrigation.

The mitigation plan would have taken as much as 25 to 50 percent of the land in several farming units, making them unfeasible to operate.

In closing, the subdistrict could support Senate bill 1553 if several key amendments or changes could be made in the bill. We are especially concerned that amendments to section 3 are made. If not, I am certain that the subdistrict board could not support this legislation. If that should occur, we would recommend that the WEB project be handled in separate legislation, and that the congressional delegation begin work on an additional draft legislation to resolve Oahe.

Thank you.

[The prepared statement of Mr. Naessig follows:]

Statement By
LEONARD NAESSIG
OAHE CONSERVANCY SUBDISTRICT
BOARD OF DIRECTORS

To The
SENATE SUBCOMMITTEE ON WATER AND POWER
SENATOR FRANK MURKOWSKI, CHAIRMAN

Public Hearings
Pierre, South Dakota
September 12, 1980

Mr. Chairman, members of the Subcommittee. My name is Leonard Naessig. I live and farm near Webster, South Dakota in Day County, and serve as Vice Chairman on the Oahe Conservancy Sub-district Board of Directors. I submit the following testimony on behalf of the Oahe Conservancy Sub-district based upon existing Board positions.

I have been asked to provide the Subdistrict Board's specific comments on Senate Bill 1553. I will also address several other areas which relate to the bill, WEB, and Oahe Unit. This is our initial testimony on the bill, we may submit additional testimony following the hearing.

Comment On Senate Bill 1553

Senate Bill 1553 and its companion bill H.R. 4347 in the House, deals directly with several projects located within the Oahe Conservancy Subdistrict area. We could support the bill if several basic changes were made. The original title of the Bill stated its purpose as being to "reauthorize the WEB Pipeline Project, to provide for the study of South Dakota water development projects to be developed in lieu of the Oahe and Pollock/Herreid Irrigation Projects..."

The WEB project was authorized by Congress in October of 1980. That authorization contains specific procedures for construction of the project. We feel it would be better to amend the 1980 authorization rather than try to establish a new one. Further it is not clear what the "in lieu of Oahe" means. Does it mean deauthorization of the old Oahe plan, or doesn't it. This should be cleared up.

WEB Project

Section 1 (a) of the Bill states..."that the WEB Pipeline Project

authorized by Section 9 of Public Law 96-355, is reauthorized". The Subdistrict would recommend that this ssction of the bill be amended, and supports language suggested by the WEB Association as follows;

(a) The WEB Rural Water Development Project, authorized by Section 9 of P.L. 96-355 will remain authorized and not terminate on Sept. 30, 1981.

Section 1 (b) of the draft appears to be aimed at removing the language from the original WEB authorization which directed funding through the Department of Interior to the Department of Agriculture, and caused objection and concern with Congressional Appropriations Committees last year. The Interior Appropriations Conference Committee recommended that funding for WEB go through the U.S. Department of Agriculture and appropriate Appropriations Committees. We feel Section 1(b) of the bill should be amended and support the following language offered by the WEB Association and follows;

(b) The Secretary of Interior (hereinafter referred to as the "secretary") is directed to proceed with the development of the WEB Rural Water Development Project by making available for immediate obligation \$1.9 million, and \$33 million for fiscal year 1982, except that such funds shall be made available directly to the WEB Association and shall not be transferred to the Department of Agriculture, however, the Secretary shall enter into cooperative memoranda of understanding with the Secretary of Agriculture providing for the continued Farmers Home Administration oversight of the technical development of the WEB Project.

We are concerned that HB4347 does not address the fact that WEB authorization dies September 30, 1981.

Alternative Uses - Oahe Unit Facilities Study

Section 2 (a), item 1 of the draft bill authorized study of "alternate uses of facilities constructed for use in conjunction with Oahe Unit, initial stage". The draft does not state whether lands acquired

from private landowners for Oahe Project purposes falls under the definition of "facilities construction". On the surface, it would appear that they would not. Specific language should be included in the bill to return unused lands back to the original landowner and the county tax rolls. For example those lands in the proposed Blunt Reservoir, where no construction has occurred, should not be considered "facilities".

Garrison Study

Section 2(a), item 2, authorizes study of "use in South Dakota of water delivered by the Garrison Unit...". It was our understanding that Garrison modification, or the Governor's Concept to modify Garrison could be studied with available federal funds already authorized for Garrison, or through some new appropriation. South Dakota will be accommodating North Dakota if acceptable modifications cannot be worked out for handling Garrison return flows, which Canada and Minnesota have rejected. We question w. y any potential funding that might be available through an Oahe settlement should be used to fund study of redirection of the Garrison Project south, when that cost obviously would be a cost related to the Garrison Project. Also, before any thought of extending Garrison return flows into South Dakota is considered, the Garrison authorization should be amended or reauthorized to protect South Dakota from any adverse impacts.

Pollock-Herreid Study

Section 2(a), item 3, of the draft authorizes study of a "scaled-down version of the Pollock/Herreid Unit". We feel the local sponsors would have to accept and endorse this language before the Subdistrict would support it, and at present it is our understanding the Pollock-Herreid Irrigation District opposes deauthorization of Pollock-Herreid, or further study of the project by the Bureau of Reclamation. They would support federal funding for a private project development.

State Water Plan

Section 2(a), item 4, of the draft legislation authorizes study of "any other water project or projects..." prioritized by the Governor and the State which the Secretary of Interior "determines may qualify for federal construction funding under the terms of this section". As

a practical matter, there are 40 water projects in the State Water Management System (State Water Plan). At least 12 of which have been fully studied and are in need of construction funding. We are concerned that this language may restrict funding to those projects which are ready to go now. Would this limit potential benefits of an Oahe settlement or trade only to irrigation related projects or multi-purpose projects, which is what the Bureau normally constructs, and would these projects have to meet federal Bureau of Reclamation standards to qualify? We would recommend that Section 2(a), 4 be amended to read as follows;

"Any other water project or projects which have been included by the Legislature in the State Water Plan shall qualify for study funding and construction funding under this act providing their project meets the feasibility requirements of the appropriate federal agency which deals with that type of project".

Preserving Low Interest and Hydro Subsidy

Section 2(b) of the bill restates the federal commitment to South Dakota under the Pick-Sloan Act and provides that, for purposes of feasibility,..."the Secretary shall use criteria no less favorable than those under which the Oahe Unit was authorized". Oahe was authorized in 1968 at 3 1/4% interest, 90% hydro-subsidy for construction, and hydro-power available for pumping at 2.5 mills per kilowatt hour. The Oahe Subdistrict supports this provision. We do feel, however, such benefits should be available to all types of projects (domestic water, flood control, M&I) and not just irrigation, and that the bill should be amended accordingly.

Contract Authority for Studies

Section 2 (d) provides..."the Secretary may contract with the State to carry out the studies authorized by this section...". We would recommend that the language be broadened and amended to include local entities as follows..."the Secretary may contract with the State, Conservancy Subdistrict, and local entities to carry out the studies authorized by this section". This would recognize South Dakota water resource planning and development, which is aimed at local involvement and decision making.

Mr. Leonard Naessig - Testimony - Senate Subcommittee on Water & Power

Cancellation of Contracts - Deauthorization of Features

Section 3 authorizes the Secretary of Interior to "cancel the Master Contract and participating and security contracts" which obligate the taxpayers of the Oahe Conservancy Subdistrict and the West Brown and Spink County Irrigation Districts to repayment, construction, and O&M costs of the Oahe Unit. The Subdistrict questions whether contracts can be bilaterally cancelled without the consent and approval of the other contract parties. We recommend a provision of bilateral cancellation be included and then only following partial deauthorization of Oahe features. The Subdistrict would support Section 3 if it could be expanded. Cancellation of the contracts currently connected with Oahe will not in itself assure that the old Oahe plan will not be constructed, until and unless the 1968 authorizing legislation is changed or deauthorized. However, interest has been expressed by some that the foundation of the authorization remain intact for possible use by other projects, including WEB and CENDAK. To satisfy both concerns, we would recommend that the following be added to section 3 (b) of the bill;

"Provided that bilateral agreement between the contracting parties is achieved and; provided, that prior to cancellation the following features described in supporting planning documents as proposed features of the Oahe Unit, are deemed unnecessary and not required for further development and shall no longer be authorized under PL 90-453; 82 Stat. 624 as adopted August 3, 1968:

- Byron Dam and Reservoir
- Byron Pumping Plant
(Brown and Spink Counties)
- James Canal
- East Main Canal
- Redfield Canal
- West Main Canal
- Cresbard Canal
- Cresbard Dam and Reservoir
- Faulkton Canal
- James River Siphon
- Blunt Dam and Reservoir

* - West Lake Plain Irrigation Area

* - East Lake Plain Irrigation Area

(* Including associated smaller laterals and drains)

This is consistent with a position and condition the Subdistrict Board adopted May 8, 1981, with regard to study of the CENDAK water proposal.

Reserve Low Cost Power

Section 4 of the legislation makes low cost hydro-power available to all State water projects, including tribal projects, under the Pick-Sloan Program. The Oahe Conservancy Subdistrict supports this section of the draft as written, recognizing that this provision and other and other financial provisions may be difficult to retain given budget restrictions and the status of the Pick-Sloan Missouri River Basin Account.

DOMESTIC WATER - TOP PRIORITY

There is no doubt that improving domestic water, both rural and municipal, is the top priority in South Dakota, or at least in the Oahe Subdistrict area. The Subdistrict is committed to provide necessary up front financial support for studies, ways to improve domestic water, and is also committed to providing the necessary local matching funds to secure federal loans and grants.

Also, as part of our review process on Oahe Unit, we examined the potential the project provided for meeting domestic water needs of the area. Our finding was that open ditch delivery, generally, does not serve the needs of small rural communities found in the Subdistrict, which do not have the population necessary to support large storage capability connected with open ditch delivery systems.

M&I Water Shortcomings - Oahe Unit

The authorization of the Oahe Unit Initial Stage authorized 17 communities to take advantage of water from the Oahe project. Of the 17 communities authorized only Huron, Aberdeen and Mitchell have the ability to treat Oahe Unit water for populations of over 2,500. It is unlikely that towns below 2,500 population would have the financial capability to afford to build a 7 month supply reservoir and a surface water purification plant.

The authorized municipalities could obtain water at a canalside or lateral point of the project works and would be made at a cost per acre foot based on the payment share of the annual costs of operation, maintenance, and replacement. Municipal and industrial users would be required to pay all works needed at and beyond the canalside delivery point.

The cities of Miller and Redfield were evaluated in the W.P.R.S. Concluding Reports on Miller and Redfield Water Supply Alternatives that stated a cost of \$1,868,500 investment for Redfield and \$4,131,000 for Miller to pay for costs of water storage facilities, raw water pipelines, pumps, treatment plants in order to be able to utilize water from Oahe. These figures do not include the cost of the to be purchased (Oahe Unit water). 1/

M&I Water Use Repayment

The Bureau of Reclamation's Definite Plan Report on Initial Stage Oahe Unit (page 42) states, "All costs allocated to municipal-industrial water will be repaid with interest within a 50-year period from the date of initial delivery to each municipality. A breakdown of the payments include: repayment of construction costs, repayment of interest during construction, repayment of interest on unpaid balance. Total payments by municipalities would amount to \$29,245,000 according to the 1971 B.O.R. report (see attach. "A")

B.O.R. Project Data Sheets dating back to 1970 show that B.O.R. has steadily increased the costs that M&I water users would have to pay.

Review of Project Data Sheets

(Summary-M&I Allocations)

<u>Year</u>	<u>Allocation</u>	<u>Project Costs</u>
1970	\$11,856,000	\$287,796,000
1971	12,034,000	
1973	14,426,000	338,199,000
1974	15,440,000	362,425,000
1975	16,305,000	382,443,000
1976	19,479,000	457,292,000
1977	21,455,000	504,620,000
1981 (Reflect Jan. 77 Prices Indexed)	26,542,000	537,590,000

1/Concluding Report on Miller Water Supply Alternatives, Concluding Report on Redfield Water Supply Alternatives, September 1980 (Table 9, both)

B.O.R. officials recently estimated the cost of the Oahe project may have reached a figure in excess of \$900,000,000 at today's costs. It could be assumed, incrementally, the M&I cost share allocation could amount to approximately \$50-55 million excluding any interest during construction or amortization costs over the 50 year period of the project.

Alternatives to Oahe

Almost all towns that would have been served by Oahe are currently pursuing long term water supply alternatives which are least cost options for water supply. Of the 17 towns authorized for Oahe Unit water, 10 towns could receive water supplies from construction of the WEB pipeline. The City of Aberdeen could receive some 273 (MGY) million gallons yearly on an off-peak basis from WEB and is additionally looking at developing ground water, expanding the present capacity of existing dams, and reviewing options of receiving water from the Garrison irrigation unit. The remaining towns not served by WEB include Mitchell (which is considering the development of a Missouri River Pipeline system and Garrison return flows), Miller (which could be supplied by a Missouri River Pipeline or potentially served by desalination of existing ground water). (See Attach. "B") The town of St. Lawrence is within two miles of Miller and could utilize Miller's alternative for water supply. The town of Blunt is on record as not having a water problem unless the Blunt Reservoir is constructed which will bisect the aquifer from which the city receives its water supplies. All remaining communities have solved their water supply problems by receiving service from several rural water systems or the WEB project.

Bureau data analysis sheets since 1970 indicate that the M&I water users (communities) would be expected to repay \$26,542,000 according to indexed 1977 B.O.R. cost estimates. The B.O.R. stated, that a total municipal and industrial water supply of 26,620 acre feet will be provided in the canal system for the 17 municipalities. Utilization of the 26,620 was based on the year 2020 population figures assuming huge increases due to Oahe unit operation. The table below shows actual census figures for 1960, 1970, 1980 indicating a declining rather than a growing population.

B.O.R. Population Estimates

(Table)

<u>Town</u>	<u>1960</u>	<u>1970</u>	<u>1980</u>	<u>Project Yr. 2020</u>
Aberdeen	23,073	26,475	25,956	55,000
Huron	14,180	14,299	13,000	35,000
Mitchell	12,555	13,425	13,916	28,000
Alexandria	614	598	588	1,200
Ashton	182	137	93	800
Blunt	532	445	424	750
Brentford	96	94	91	600
Columbia	272	240	161	500
Conde	388	279	259	1,750
Faulkton	1,051	955	943	1,700
Mellette	208	199	192	2,050
Menno	837	796	793	1,700
Miller	2,081	2,148	1,931	5,100
Redfield	2,952	2,943	3,027	11,500
Northville	153	119	138	900
St. Lawrence	290	259	223	400
Scotland	<u>1,077</u>	<u>984</u>	<u>1,022</u>	<u>2,800</u>
Totals	60,781	64,578	62,966	151,050 1/

(The approximately 63,000 people would not be able to fully utilize the 26,620 acre feet of water which is significant because water usage is directly tied to the fixed costs for M&I water presently estimated at \$26,542,000 according to the B.O.R. Data Analysis sheets dated 1-1-81 which represents their cost of the facilities (Oahe) to be constructed.)

The Bureau estimated that the charge for M&I water would be approximately \$30 an acre foot plus a charge for OM&R but was based on inflated population rates and high water consumption rates per capita. It can be assumed that M&I water costs of repayment for use of water from Oahe unit facilities would have to be repaid at current government borrowing rates or above.

Water Use and Costs

Assuming a 1970 census population of 61,635 persons (excluding Redfield which was not authorized) using water at the average rate of 100/gallons/person/day or a yearly use of 2,263,000,000 (2,263 MGY) and that the \$26,542,000 would be repaid at the 6-7/8 percent interest over a 50 year period, the annual repayment would amount to \$1,892,975.40 or a cost of \$.83/1,000 gallons delivered canalside.

1/Report on Oahe Unit, May, 1965, Table 3L (BOR)

Debt Retirement for 17 Towns Authorized by Oahe

Bureau Data Analysis sheets dated 1-1-81 indicate that M&I water users would repay \$26,542,000

Assume a 50 year repayment period

Assume a 1970 census of 61,635 people

Assume 100 gallons of water per person/day or 2,263 Million Gallons Yearly

Chart

<u>Interest</u>	<u>Annual Repayment</u>	<u>Cost/1,000 gallons</u>
6-7/8 percent	\$1,892,975.40	\$.83
7-7/8	2,138,754.30	.94
8-7/8	2,389,841.60	1.06
9-7/8	2,644,910.30	1.17
10-7/8	2,903,163.90	1.28
11-7/8	3,163,540.90	1.39

The B.O.R. water charges per 1,000 gallons would be on top of additional facilities required to transport, store, and treat Oahe Unit water and would be in addition to the normal OM&R costs associated with the operation of a community water system. Most cities have not been able to go beyond city boundaries for water supplies and have had extreme difficulty in maintaining present systems on existing rates. Unreasonable rates or higher rates than are now being charged would force many towns to use their present system of supply rather than Oahe unit water.

Desalination, an alternative to Oahe, of existing ground water supplies proved more economical for the City of Miller in a study prepared by J.T. Banner & Associates, Inc., entitled: Potential Contribution of Desalting Systems to Municipal Water Quality and Supply in the State of South Dakota. The study compared the cost of Oahe water to desalination processes and found that, "the cost of obtaining a fresh water supply (Oahe) are not competitive with the competitive desalting processes considered." See Attachment "C". 1/

State and Federal water quality standards would be violated by Oahe return flows into the James River severely affecting the water quality of Huron's water supply and possibly that of Mitchell as well (Mitchell pipes water from the James River to Firesteel Creek during high flow

1/ P. 202, Potential Contribution of Desalting Systems to Municipal Water Quality and Supply in the State of South Dakota, 1973, J.T. Banner and Associates, Inc.

conditions. The Federal Safe Drinking Water Act of 1974 sets maximum contaminant levels in Interim Primary (Mandatory) and Secondary drinking water regulations. Water quality degradation will be severe enough to endanger the health and safety of downstream communities (Huron and Mitchell) who utilize the James River as a water supply unless other steps are taken to protect them.

The Oahe Unit Master Contract obligates the Oahe Subdistrict to comply with all applicable federal and state laws regarding water quality. Under the contract, the Oahe Subdistrict assumes primary liability for operation and maintenance of the Oahe works including unpaid repayment obligations of the irrigators and the M&I water users in addition to any liabilities arising out of operation of the project. 1/ NEPA (National Environmental Protection Act) and State standards for Total Dissolved Solids (TDS) is 1,000 Milligrams per liter (Mg/L) and for nitrate is 10 Mg/L. Both the T.D.S. and the nitrate standards are now exceeded by existing flows in the river but would be more frequently violated at higher concentrations should Oahe become operative.

Data received from B.O.R. officials contained in the James River hearing testimony indicated that return flows from the Oahe Unit would flow into the James River approximately five months out of the year beginning in September. They concluded that, with the Oahe project, James River water would violate the State's drinking water standards 38% of the time during the months of November through March. Without the Oahe project, this standard would only be exceeded 24% of the period, November through March. The water quality of the James River during the months of April through October will be kept at the maximum permissible limits by massive and costly addition of Missouri River dilution water. 2/ The B.O.R. estimated that in order to maintain drinking water standards for Huron at 1,000 Mg/L (Milligrams per liter) that 43,600 acre feet of dilution water would be needed. The Environmental Protection Agency stated, that a minimum of 95,300 to 285,500 acre feet of dilution water would be needed (disagreeing with the B.O.R.) to maintain the 1,000 Mg/L standard at Huron. 3/ Bureau officials were asked what plans the agency had to curb the high concentrations of nitrates and Total Dissolved Solids

1/P. 27, Article 45, Oahe Master Contract.

2/P. 23-32, James River Hearing, February 16, 1977.

3/A-147, 1977 James River Hearing, Oahe Conservancy Subdistrict

that would be added to the James River by Oahe return flows, they stated, the Bureau of Reclamation is not concerned about meeting NEPA (National Environmental Protection Act) regulations on water quality because they are not being met now.^{1/} If the historical water quality of the James River were improved by large amounts of dilution water, the municipal users would have to pay for them. The Bureau referred to recent water quality tests completed in the Harza report of the effects of Garrison water (as an example of Oahe return flows) return flows from the Garrison project on the Souris River conducted at the Oaks North Dakota test plot. The Harza report concluded, "the concentration of nitrate, near the South Dakota border, will increase greatly"...."Under a continuation of current practices of fertilizer application, the nitrate concentration may increase from a present level of about 0.3 Mg/L to around 1.0 to 1.5 Mg/L during April through October and will increase to about 4 to 7 Mg/L at other times of the year."^{2/}

North Dakota State University (June of 1981) released results of the studies of water quality of return flows from the Oaks, North Dakota test plot concerning the potential effects of Garrison on water quality. It reported, the nitrates from the drains and extractors off of the Garrison project could be expected to reach from 30-70 Mg/L. 10 Mg/L is considered safe in South Dakota.^{3/}

Expected water quality of return flows, that may be used for M&I water, from Oahe may be equated with Garrison return flows examined in a report by International Joint Commission (IJC) concerning Garrison flows in the Souris River. The report states, "Nitrates occur in percolating ground waters as a result of excessive application of fertilizer. High concentrations of nitrates in drinking waters are a health hazard. Concentrations of nitrates expressed as nitrogen above 10 Mg/L can cause infant methemoglobinemia, a disease characterized by certain specific blood changes, and cyanosis. Excess nitrates cause irritation of the mucous linings of the gastrointestinal tract and bladder, with symptoms of diarrhoea and diuresis. It is widely recommended that water containing more than 10 Mg/L of nitrate nitrogen should not be used for infants. The commission indicated that the nitrate concentrations in the river would be expected to go from 9 Mg/L to 12 Mg/L over a period of time."^{4/}

1/ Ibid., p. 23-32

2/ The Harza Report, Harza Engineering Co., May 1976

3/ North Dakota State University Water Quality Data from the Oaks Plot on Garrison, June 1981

4/ International Joint Commission Report, 1977

In April of 1974, Russel Train-Administrator of the Environmental Protection Agency (EPA) sent a letter to B.O.R. Commissioner Gilbert Stam complaining a number of environmental issues were not answered including water quality. Administrator Train concluded, "Public drinking water supplies from the James River and other downstream communities will be significantly degraded with serious public health implications unless a suitable water quality management plan to prevent this degradation is incorporated as an integral part of the Oahe project. The present proposal to provide diluted water to the James River is not acceptable." Train further urged, "A water quality management plan involving water supply alternatives for Huron should be developed in conjunction with the State of South Dakota to insure that water quality objectives will be met for all users affected. See Attachment "D".

Oahe was acclaimed to provide an M&I water benefit to 17 communities authorized by the 1968 Act. Out of the 17 communities only three have existing systems that could utilize the Oahe (surface) water, 10 of the 17 communities would be served by the proposed WEB project. Of the remaining, Scotland, Menno, and Alexandria are being served by rural water systems, leaving Huron, Mitchell and Aberdeen who are exploring other alternative supplies. Water from Oahe was not readily accessible being available approximately five months a year. Water quality is expected to be degraded by high nitrates and T.D.S. to the point as to cause concern for human health if steps are not taken. The cost of water from Oahe itself is a question and may be the single most important factor as to municipalities being allowed to benefit.

Oahe Unit - Wildlife Mitigation

One aspect of the Oahe Unit Irrigation Project which caused concern was the impact proposed acquisition of productive farm land for wildlife mitigation purposes to replace natural habitat lost to construction of Oahe Unit features.

The Oahe Subdistrict Board understands the concept behind mitigation, that it is a replacing "in-kind" of a resource lost as a result of construction of a federal water project. We understand that it is a required part of the federal reclamation law.

It would be fair to state however, that wildlife mitigation associated with Oahe Unit was one of those "facts of life" that made the Oahe Irriga-

tion Project just that much more unacceptable. It was not the reason Oahe lost support over the 15½ county Subdistrict area. But it was one of the main reasons for Oahe's demise in several areas. Counties like the ones I represent on the Oahe Board, Day and Marshall Counties, were scheduled to lose thousands of acres of prime farmland to the Oahe Project to provide wetland areas to replace natural areas which would be destroyed by project canals, reservoirs, and irrigation. Below is a listing of the mitigation acres proposed in the "Revised Wildlife Plan" released in 1977; (page 23)

Table 6. Distribution of Revised Wildlife Areas

<u>County</u>	<u>No. of Acres</u>	<u>Average Size</u>	<u>Total Acres</u>
Beadle	30	207	6,205
Brown	24	193	4,550
Campbell	3	156	468
Clark	44	117	5,183
Day	70	175	12,185
Edmunds	22	161	3,533
Faulk	10	138	1,378
Hand	16	221	3,555
Hughes	1	250	250
Hyde	1	100	100
Marshall	6	303	1,815
McPherson	3	140	420
Spink	<u>15</u>	<u>190</u>	<u>2,826</u>
Total	245	174	42,468

This did not take into account any wildlife mitigation for damages which might result on the James River with channelization or other river improvements associated with Oahe. Federal Fish and Wildlife and State Game, Fish, and Parks officials testified at Subdistrict hearings in 1977 that replacement of the James River would be almost impossible, and at the least very costly.

The Board contacted landowners in the West Brown and Spink County Irrigation Districts asking them to accept a proportionate amount of wildlife mitigation in order to obtain irrigation. The only replies that were received were negative. The mitigation plan would have taken as much as 25% to 50% of the land in several farming units, making them unfeasible to operate. In virtually every case, the lands identified were the most productive lands in the farming unit. One very disturbing issue was that the Bureau of Reclamation was aware of which lands they were considering as early as 1976 and yet they did not release the Revised

Wildlife plan until early 1977, after a member of the Board by chance happened to see the report, and the Board demanded a copy of the report through members of the Congressional Delegation. Otherwise people may have had to wait for years before they ever learned that the Government had designs of their land.

WEB Project

The Oahe Conservancy Subdistrict Board has been affiliated with the WEB Project since it began in 1975. The Subdistrict has provided over \$78,000 to the WEB Association and county steering committees to match over \$164,000 in funds they have collected to complete engineering studies. In 1978 the Oahe Conservancy Subdistrict Board established a "Domestic Water Continuing Construction Fund" to assist domestic water projects like WEB in constructing their projects. The Subdistrict would not underwrite the project, but would provide up to 5% of the construction cost in the form of a direct grant to the project. This local "up front money" shows commitment to the project consistent, we feel, with the policies outlined by the Reagan administration and the new trends being set in Congress. The Sub-district would provide \$3.1 million toward WEB construction and has collected a portion of that money already, which can and would be released to match the \$1.9 million in first year federal funding for WEB when it is released.

Other Domestic Water Projects

There are several other projects in the State Water Plan that have been studies and are ready for funding which the Subdistrict is committed to provide matching funds for if and when federal funding becomes available. The Clark Rural Water System and the Brown-Day-Marshall Rural water system which each would serve over 400 farms and a number of towns with needed improved domestic water through buried pipelines. In the Clark area farmers are resorting to hauling water to livestock. And in both areas water quality is so poor that in most cases it violates one or several of the Federal Safe Drinking Water Standards.

In addition, we are currently cooperating with the City of Huron in the study of five possible options that exist for relieving their domestic water needs. In addition, we have several other small domestic water systems which will soon be in need of funding; the Southern Spink-Northern

Beadle Pipeline, and Lake Sharpe Rural Water System.

If the Congress really wanted to help a rural state like South Dakota and get the most "bang for the buck", the best way would be to put money into rural/municipal domestic water projects like WEB.

State Water Plan

Under state law, the six Conservancy Subdistricts in the state cooperate with the Department of Natural Resources and develop a list of water projects each year which are developing or in need of funding. Public hearings are held on the projects, and then a list is submitted to the State Legislature with recommendations for inclusion in the "State Water Plan".

The Oahe Conservancy Subdistrict Board rated projects within its boundaries and submitted this priority rating to the State Board. Some of the projects involved are directly related to S 1553. Domestic water was given the highest priority in the 15½ county Oahe Subdistrict area

For Construction - Rating of #1

WEB Pipeline Project
Clark Rural Water System
B-D-M Rural Water System
So. Spink/No. Beadle Pipeline
Mina Lake Restoration Project
Forrest City Irrigation Project
Crow Creek Watershed Project

For Study - Rating #1

Pollock/Herreid Irrigation Project
Garrison Modification Study
* CENDAK Water Study

(* The CENDAK Water Proposal was not included in the State Water Plan by the Legislature.)

Summary

In closing, the Subdistrict could support S 1553 if several key amendments or changes could be made in the bill. We are especially concerned that amendments to Section 3 are made. If not, I am certain that the Subdistrict Board could not support this legislation. If that should occur, we would recommend that the WEB Project be handled in separate legislation, and that the Congressional Delegation begin work on an additional draft legislation to resolve Oahe.

ATTACHMENT "A"

Reanalysis of Unit

Municipal-Industrial Water

All costs allocated to municipal-industrial water will be repaid with interest within a 50-year period from the date of initial delivery to each municipality. An average repayment rate of approximately \$30 per acre-foot of water used would be required to repay the allocated costs. Repayment of allocated costs is summarized as follows:

Repayment of construction costs	\$12,034,000
Repayment of interest during construction	614,000
Interest on unpaid balance	<u>16,597,000</u>
Total payments	\$29,245,000

Recreation and Fish and Wildlife Enhancement

The Federal Water Project Recreation Act provides for "cost-sharing" between Federal and non-Federal categories. This act provides that a non-Federal sponsoring agency shall repay at least one-half the separable construction costs and pay all the specific annual OM&R costs allocated to recreation and to fish and wildlife enhancement. Those facilities which provide for enhancement of migratory waterfowl are excluded from non-Federal responsibility, and the cost for these facilities would be borne by the Federal agency administering the facilities.

All joint construction and joint OM&R costs allocated to recreation and to fish and wildlife enhancement are nonreimbursable.

ATTACHMENT "B"Alternatives for 17 towns authorized for Oahe Unit Water (Initial Stage)

<u>Authorized towns</u>	<u>Service by WEB</u>	<u>Other Options</u>
Aberdeen	Potential for 273 MGY on off-peak basis	Garrison* Ground Water Development Expansion of dams*
Huron		Ground Water Development Missouri River Pipeline* Garrison*
Mitchell		Missouri River Pipeline* Garrison*
Alexandria		Now served by Hanson Rural Water System
Ashton	WEB	
Blunt		No problem unless Oahe Reservoir is constructed
Brentford	WEB	
Colombia	WEB	
Conde	WEB	
Faulkton	WEB	
Frankfort	Potential service from WEB	
Mellette	WEB	
Menno		Now served by B-Y Rural Water System
Miller		Missouri River Pipeline* Desalination*
Northville	WEB	
Redfield	WEB	Southern Spink Northern Beadle Pipeline Groundwater Development
St. Lawrence		Unknown
Scotland		Now served by B-Y Rural Water System

*Proposed or under study
(Redfield is included by is not one of the authorized 17 towns)

TABLE NO. 50

DESALTING COST COMPARISONS:

Miller's water was evaluated for the seven desalting processes considered in this report and a summary of the total water costs is shown on Table No. 50.

TABLE NO. 50
COST SUMMARY OF ALL PROCESSES EVALUATED - MILLER
Cents per 1000 Gallons--Based on Average Plant Output

Method	Total Capital Cost	Total O&M Labor Costs	Total Other O&M Costs	Total Water Cost
ED	40.0	17.4	30.1	87.5
RO	29.2	16.7	27.4	73.3
MSF	135.9	40.4	120.3	296.6
VC-VTE-MSF	52.9	40.9	61.5	155.3
VF-VC	66.8	42.6	51.3	160.7
IX	46.6	17.5	55.0	119.1
X-R	30.8	17.4	44.7	92.9

Table No. 50 shows that RO, ED and X-R have total water costs that are within about 20 percent of each other. The remaining processes have total water costs considerably higher, primarily due to higher O and M costs. Detailed costs for the three most economical processes are shown in the cost summary sheets contained in Appendix G.

Reverse osmosis appears the most economical due to the lower capital costs and operation and maintenance costs. Electrodialysis has the highest initial cost of the three methods, but its O and M costs are considerably less than the X-R making ED more competitive with RO than the X-R process. Because of the high amount of iron in the feed-water, pretreatment facilities would be required ahead of the desalting process.

Figure 55 shows a flow diagram for the City of Miller utilizing the proposed reverse osmosis desalting plant. The figure outlines the capacities of the various units in the system and the amount of product water and brine produced.

By providing reverse osmosis desalting treatment the City of Miller can improve the quality of its water. The product

ATTACHMENT "C" cont.

water, based on a material balance, has been computed to contain the following mineral levels:

<u>Constituent</u>	<u>ppm</u>
Iron	0.21
Sodium	112
Chloride	21
Sulfate	250
Total Dissolved Solids	458

FRESH WATER SUPPLY COST COMPARISONS:

As was described earlier in this chapter, consideration was given to providing Miller with water from the proposed Highmore Canal and treating the water by conventional methods. Capital costs were based on the present costs of the various units and facilities required to develop this water supply for the city. Table No. 51 presents a summary of the estimated capital costs of the system.

TABLE NO. 51
CAPITAL COSTS - CONVENTIONAL WATER TREATMENT - MILLER
650,000 GPD - HIGHMORE CANAL SUPPLY

<u>Cost Element</u>	<u>Capital Cost \$</u>	<u>Annual Cost \$</u>	<u>Water Cost ¢/1,000 gal.</u>
1. Inlet & Pump Station at Canal Site	69,000	5,000	2.92
2. Miller Reservoir	385,000	28,000	20.52
3. Inlet & Pump Station at Reservoir	62,000	4,500	2.62
4. Transmission Lines	1,600,000	116,300	67.70
5. Treatment Plant	445,000	32,300	14.58
6. Land	<u>24,500</u>	<u>1,800</u>	<u>1.03</u>
TOTAL CAPITAL COST	2,585,500	187,900	109.37

ATTACHMENT "C" cont.

As was the case with Gettysburg, the capital costs for transmission lines becomes comparatively high due to the lengths of transmission lines required. By comparing the capital costs shown above with those on Table No. 50 the costs of obtaining a fresh water supply are not competitive with the competitive desalting processes considered. Therefore, no operating and maintenance costs were computed for the above system. In addition, 9.2 cents per 1,000 gallons would be charged by the Bureau of Reclamation for the water at the canal diversion which will cause greater differential in the cost comparison.

It is anticipated that Miller will receive moderate residential cost benefits through municipally desalted water. This savings shown in Table 7 of Chapter 4 will help the total expenditure for the proposed desalting system. A number of non-monetary benefits will also be derived by the community. The present water is very high in sodium, sulfate and fluoride. Reducing these materials will provide healthful benefits to many people. Excess fluoride has been found to cause mottling and staining of teeth. Although desalting will not correct this problem in those already affected, it can help prevent it in the future, primarily in children with teeth just developing.



ATTACHMENT "D" P-1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF THE
ADMINISTRATOR

Dear Mr. Stamm:

The Environmental Protection Agency has reviewed the final environmental impact statement (EIS) for the Oahe Unit, Initial Stage. We find that the project as proposed, presents a potential for significant water quality degradation of public water supplies from the James River which has serious public health implications for the residents of Huron and other downstream communities. We also find that mitigating measures to prevent this significant degradation can be incorporated into a water quality management plan as an integral part of the Oahe project. This water quality management plan can be developed in conjunction with the State of South Dakota to implement the requirements of the Federal Water Pollution Control Act Amendments of 1972.

Although EPA does not object to the Oahe project in concept, we feel that a commitment to construct main project features such as canals, reservoirs, and drainage works at this time is premature. A number of critical environmental issues which may affect the overall scope of this project should be resolved before the decision is made to proceed with major project features. It may be possible to proceed with the Oahe Pumping Plant if it is determined that the design of this facility would not be altered by subsequent resolution of environmental issues.

Our detailed comments on the final EIS are attached. A summary of our principal concerns is presented below:

ATTACHMENT "D" P-2

Page 2 - Honorable Gilbert G. Stamm

1. Public drinking water supplies from the James River for Huron and other downstream communities will be significantly degraded with serious public health implications unless a suitable water quality management plan to prevent this degradation is incorporated as an integral part of the Oahe project. The present proposal to provide dilution water to the James River for water quality improvement is not acceptable.

2. Wetland areas and wildlife habitat could be severely affected by the proposed Oahe project, particularly if the James River were to be channelized.

3. The effect that discharge of return flows from the proposed Garrison project will have on the Oahe project and the James River is still undetermined.

4. Other concerns which require additional information and evaluation include soils suitability, flooding, benefit cost analyses, wildlife development areas, and mosquito control measures.

We urge that the studies which are pending or in progress to determine the extent of water quality impact from this project be continued and expanded to address our concerns. We submit the following recommendations for your consideration:

1. The results of soils and water quality modeling now being developed for the Oahe Unit are absolutely essential for a realistic analysis of the water quality situation on the James River in the twenty to forty year period when lake plain soils are being leached. We recommend that the model be completed to assess water quality impacts and management alternatives in the James River system.

2. A water quality management plan involving water supply alternatives for Huron should be developed in conjunction with the State of South Dakota to insure that water quality objectives will be met for all waters to be affected by the project.

3. The issue of whether channelization of the James River will be needed to operate the Oahe project and the feasibility of floodplain acquisition as an alternative should be resolved as soon as possible. The relationship of Garrison project return flows to the Oahe project and James River flows should be resolved.

ATTACHMENT "D" P-3

4. As is being done on the Garrison project, the Bureau of Sport Fisheries and Wildlife should re-evaluate the wildlife mitigation areas in terms of more recent wildlife management considerations to insure that wetland and wildlife protection are being maximized.

We believe that these environmental issues should be resolved before major project features are implemented, and we will be glad to discuss our comments with you at your convenience. Our Denver Regional Administrator and his staff stand ready to work with the Bureau of Reclamation in developing the necessary water quality management plan and in exploring alternatives that will lessen the environmental impact of this project as proposed.

Sincerely yours,

John Zumbles, Deputy
for Russell E. Train
Administrator

Honorable Gilbert G. Stamm
Commissioner, Bureau of Reclamation
U.S. Department of the Interior
Washington, D.C. 20240

Enclosure

Senator MURKOWSKI. Thank you very much, and I do appreciate your summary and assure you that the entire testimony which you have submitted will be included in the record.

We will move on now to Mr. Schurr.

**STATEMENT OF ARNOLD SCHURR, SECRETARY, OAHE
CONSERVANCY SUBDISTRICT BOARD OF DIRECTORS**

Mr. SCHURR. Mr. Chairman and Senator Abdnor, my name is Arnold Schurr. I am from Roscoe, S. Dak. I farm in Edmunds County and represent Edmunds and Walworth Counties on the Oahe Conservancy Subdistrict Board.

My testimony will concern three specific areas related to the legislation at hand; Pollock-Herreid, CENDAK and specific areas where the Oahe board felt the Oahe project fell short and should be deauthorized.

The CENDAK project, as currently proposed, lies entirely within the boundaries of the Oahe Conservancy Subdistrict area.

The Oahe Conservancy Subdistrict Board considered this proposal on two occasions; once in early 1979 and again in 1981. CENDAK supporters expressed interest in the study of the canal delivery system to serve irrigation waters to farmlands in Hughes, Hyde, Hand and west of the James River in Beadle Counties. They requested that \$45,000 be provided to assist local steering committees to conduct preliminary studies; \$1 million in Federal funds to conduct detailed soil studies; proposed features of the Oahe unit irrigation project be available for use in the CENDAK project, including Pierre pumping plant, Pierre Canal, Medicine Knoll Creek Siphon, and Highmore Canal.

CENDAK supporters were not certain they would need the proposed Blunt Reservoir, and suggested as an alternative, a Blunt bypass canal and development of storage sites in the four-county area to be served by the proposed system.

The U.S. Department of the Interior and the Bureau of Reclamation have completed at least five studies for project type development in the areas of Hughes, Hyde, Hand, and Beadle Counties.

These reports are Interim Report, Oahe Unit, 1956; Report on Oahe Unit June 1960; Supplemental Report on Oahe Unit June 1965; Definite Plan Report Oahe Unit, January 1971; Environmental Impact Statement, Oahe Unit, August 1972; Eastern South Dakota Basins Study, November 1973, revised 1975.

These studies concluded that limited potential existed for development of a feasible irrigation project in the area because the lands do not meet Federal soil and drainage standards.

The first five studies were conducted as a part of the cost of the Oahe unit. The eastern South Dakota basins study cost \$490,000 to complete. In summary, these studies show that any irrigation development in the proposed area would cost more per acre than the proposed and authorized Oahe irrigation project, which at 1977 costs, cost \$2,423 per acre to construct.

They propose that main canal construction should be constructed at Federal expense, taking advantage of benefits of the existing Oahe authorization; such as the low interest rates, 3½%; low hydropower for

pumping; hydropower and U.S. tax subsidy of 90 percent, and other benefits.

As presented by supporters, CENDAK is based on the assumption that long-standing Federal laws concerning Federal funding for irrigation projects can be changed or waived.

Two features partially constructed for the Oahe project, the Pierre pumping plant building and the Pierre Canal, as well as some 19,000 acres of land, were constructed and acquired by the Federal Government under the Oahe unit authorization. As such, these features cannot be used for any other proposed project until such time as Congress takes some action on the existing authorization.

The proposed Blunt Reservoir would have considerable impact in Sully County impacting school districts, the county and the local economy, resulting in \$23,000 a year tax loss to the county. In addition, serious reservations exist with regard to the engineering feasibility and safety of the proposed dam.

As the general policy on CENDAK, the board adopted the following position: One, the deauthorization process must begin before any Oahe features desired by CENDAK could be made available, attachment 1; all proposed Oahe unit features not required for CENDAK must be stricken from the existing authorization.

Three, Oahe unit features that could remain authorized would be the Pierre pumping plant, Pierre Canal, Medicine Creek siphon, and Highmore Canal.

Four, irrigation authorized would remain authorized providing contracts which obligate the irrigation districts are deauthorized.

Five, wildlife mitigation would have to be acquired on a prorated basis among irrigators, or acquired in the counties where CENDAK is located.

Six, information gathered on soil studies be public information.

Seven, long-range plans must include formation of an entity able to accept obligations connected with irrigation projects.

The Subdistrict would not support further study by the Bureau of Reclamation.

Pollock-Herreid is next. The Oahe Conservancy Subdistrict Board is opposed to deauthorization of the Pollock-Herreid project and supports the concept of adjusting the present Congressional authorization so that it can be used to build a private project with private development as requested by the local interests. Language of Senate bill 1553 is vague, but we are concerned that it may be aimed at deauthorizing the project.

Major problems of the Oahe unit: There were a vast number of problem areas associated with the Oahe unit. I would like to bring to the committee's attention what we consider the seven major problems.

Reduction of tile drains: The original Oahe plans called for approximately 18 miles of buried tile drain for each section irrigated. Sometime between 1960 and 1965, apparently the Bureau of Reclamation made several cuts in the project plan to reduce the total cost of the project going into authorization. Buried tile drainage was cut in half.

This resulted in the average water table over the project area to increase to 3 feet from the soil surface. There is no doubt that some soils would have been lost to seepage and flooding. Also, the project did not

have enough drainage figured in to protect nonproject lands and the city of Aberdeen from seepage.

Reclassification of lands: Lands in the project area were reclassified, some from nonirrigable to irrigable during the period between 1960 and 1970. The reasons given for reclassification were not consistent with earlier soils and classification studies completed in the area.

Senator MURKOWSKI. Mr. Shurr, I wonder if you could summarize the balance of your remarks, please.

Mr. SHURR. OK.

Well, basically what it boils down to is we have many problem areas that are in the public record, and I believe you probably have that in front of you. But one of the main ones that I would like to speak about would be the last one, the Bureau of Reclamation, out of control.

Let me read a couple of sentences here.

During the course of the last 5 years, we have found that the Bureau of Reclamation is virtually out of control. They were not responsive to expressed desires of the local contracting entity, the public, or for that matter, elected Congressional officials. The Bureau did more to kill the Oahe project than anything.

That concludes my remarks.

[The prepared statement and a subsequent submittal from Mr. Schurr follow:]

Statement Presented By

ARNOLD SCHURR
Oahe Conservancy Subdistrict
Board of Directors

To The

SENATE SUBCOMMITTEE ON WATER AND POWER
SENATOR FRANK MURKOWSKI, CHAIRMAN

Public Hearings
Pierre, South Dakota
September 12, 1981

Mr. Chairman, Members of the Committee. My name is Arnold Schurr, from Roscoe, South Dakota. I farm in Edmunds County and represent Edmunds and Walworth Counties on the Oahe Conservancy Subdistrict Board. I am also the Secretary of the Subdistrict.

My testimony will concern three specific areas related to the legislation at hand; Pollock-Herreid, CENDAK, and specific areas where the Oahe Board felt the Oahe Project fell short and reasons why it should be deauthorized.

CENDAK

The CENDAK water proposal has been recommended by Senator Abdnor in his introduction of this bill, as one project which might benefit from this bill. The CENDAK project, as currently proposed, lies entirely within the boundaries of the Oahe Conservancy Subdistrict area.

The Oahe Conservancy Subdistrict Board considered this proposal on two occasions, once in early 1979 and again in 1981. In 1979 the proposal was rejected because it appeared to be an attempt to continue the Oahe Project and it lacked any semblance of local support. In 1981 the Board considered the proposal again.

CENDAK supporters expressed interest in the study of a canal delivery system to serve irrigation waters to farm lands in Hughes, Hyde, Hand and west of the James River in Beadle Counties. They requested that;

- The Subdistrict provide \$45,000 to assist local steering committees conduct preliminary studies,
- We support obtaining \$2 million in federal funds to con-

duct detailed soils studies, to determine irrigability of soils,

- Proposed features of the Oahe Unit Irrigation Project be available for use in a CENDAK Project, including Pierre Pumping Plant, Pierre Canal, Medicine Knoll Creek Siphon, and Highmore Canal. CENDAK supporters were not certain they would need the proposed Blunt Reservoir, and suggested as an alternative, a Blunt by-pass canal and development of storage sites in the four-county area to be served by the proposed system.
- They also asked that their proposal be included in any settlement or trade that might be made for the Oahe Irrigation Project.

The U.S. Department of Interior and the Bureau of Reclamation have completed at least five (5) studies for project type irrigation development in the areas of Hughes, Hyde, Hand, and Beadle Counties.

Interim Report - Oahe Unit 1956
 Report on Oahe Unit - June, 1960
 Supplemental Report on Oahe Unit - June, 1965
 Definite Plan Report/Oahe Unit - January, 1971
 Environmental Impact Statement/Oahe Unit - August, 1972
 Eastern South Dakota Basins Study - November 1973, revised 1975

These studies concluded that limited potential existed for development of a feasible irrigation project in the area, because lands do not meet federal soil and drainage standards. The first five Oahe studies were conducted as part of the cost of the Oahe Unit. The Eastern South Dakota Basins Study cost \$490,000 to complete. These studies included: soils inventory, diversion schemes, canal locations, cost estimates, environmental impacts, economic benefit, drainage, wildlife, mitigation, pumping costs, land loss, and feasibility. In summary these studies show that any irrigation development in the proposed area would cost more per acre than the proposed and authorized Oahe Irrigation Project, which at 1977 costs, cost \$2,423 per acre to construct.

CENDAK supporters contend that the project they proposed would be constructed and studied as a private project, not a federal project. Main canals and second / canals would be constructed on section lines to avoid problems. They propose that the main canal should be constructed

at federal expense taking advantage of benefits of the existing Oahe authorization, such as the low interest rate (3½%), low hydropower for pumping, hydropower and U.S. tax subsidy (90%), and other benefits. They proposed that secondary delivery canals will be constructed by local irrigators, financed with federal or private loans. As presented by supporters, CENDAK is based on the assumption that long standing federal laws concerning federal funding for irrigation projects can be changed or waived. Such as federal regulations and laws concerning certification of soils, wildlife mitigation, 160 acreage limitation laws, cost/benefit and feasibility requirements, and others. Such changes would be difficult to obtain.

Essentially, CENDAK supporters want a federal irrigation delivery system, which, unless federal Reclamation laws are changed, could not be obtained without federal agencies making planning and construction decisions. CENDAK supporters have not defined how they propose to obtain federal funding for a delivery system.

Two features partially constructed for the Oahe Project, the Pierre Pumping Plant building and the Pierre Canal, as well as some 19,000 acres of land were constructed and acquired by the federal government under the Oahe Unit Authorization. As such, these features cannot be used for any other proposed project until such time as Congress takes some action on the existing authorization. The existing Oahe authorizing legislation must be either deauthorized or re-authorized to provide for some other project which meets federal standards, is feasible, and is approved by Congress. Presently, the Oahe Unit authorization represents an obligation to three parties: the Oahe Conservancy Subdistrict, the West Brown Irrigation District, and the Spink County Irrigation District. Both irrigation district boards have asked that Oahe be deauthorized and the lands in their districts be removed from contract obligations before any further studies or construction is done on any project, CENDAK or any other. Oahe represents a federal mortgage on some 190,000 acres of land in the two irrigation districts. The districts have expressed a willingness to explore shifting the obligations and the contracts from their lands to some new parties, providing features of the Oahe Unit which they find objectionable are deauthorized, and the remainder of the authorization be resolved within a reasonable time frame.

The proposed Blunt Reservoir would have considerable impact in Sully County impacting School Districts, the County, and the local economy, resulting in \$56,000 a year tax loss to the county.^{/1} In addition, serious reservations exist with regard to the engineering feasibility and safety of the proposed dam. Studies indicate that deep deposits of gravel in the proposed dam site area could make construction of the dam questionable.

Taking this all into consideration the Subdistrict Board agreed to provide \$45,000 on a matching basis for soils studies. As a general policy on CENDAK, the Board adopted the following position;

1. The deauthorization process must begin before any Oahe features desired by CENDAK could be made available. (attachment 1)

2. All proposed Oahe Unit features not required for CENDAK must be stricken from the existing authorization.

- Cresbard Canal
- Faulkton Canal
- Cresbard Reservoir
- West Main Canal
- Redfield Canal
- Byron Dam and Reservoir
- East Main Canal
- James Canal
- James River Channelization
- Blunt Reservoir
- James River Siphon
- East Lake Plain
- West Lake Plain

3. Oahe Unit features that could remain authorized would be:

- Pierre Pumping Plant
- Pierre Canal
- Medicine Creek Siphon
- Highmore Canal

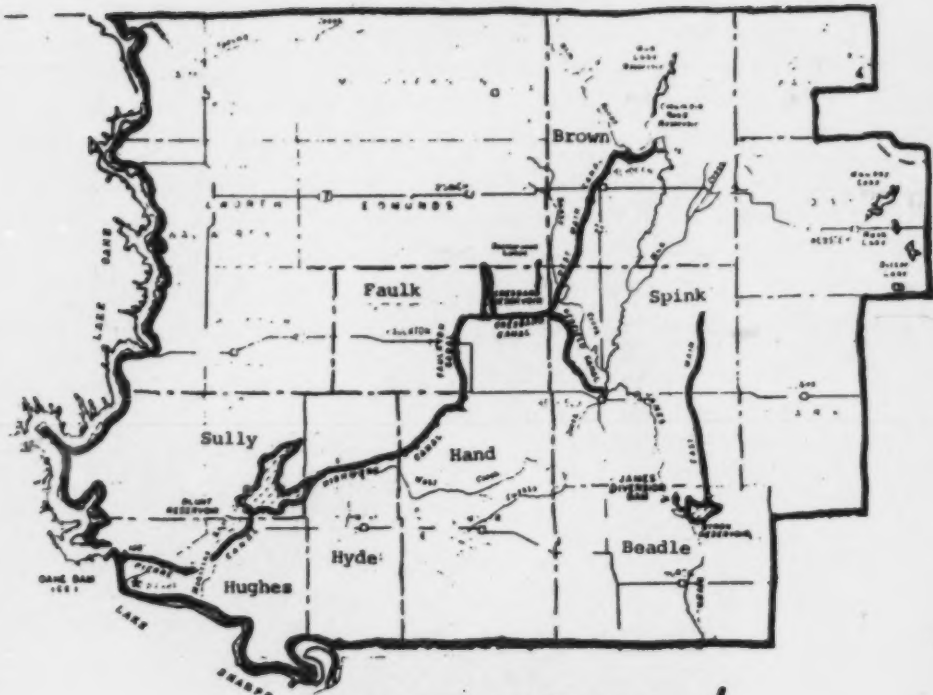
4. Irrigation authorized would remain in the authorization providing contracts which obligate the Irrigation Districts are deauthorized.

5. Wildlife mitigation authorized for Oahe Unit, would have to be deauthorized. Wildlife mitigation required for CENDAK would have to be acquired either on a pro-rated basis among irrigators, or acquired in the counties where CENDAK is to be located.

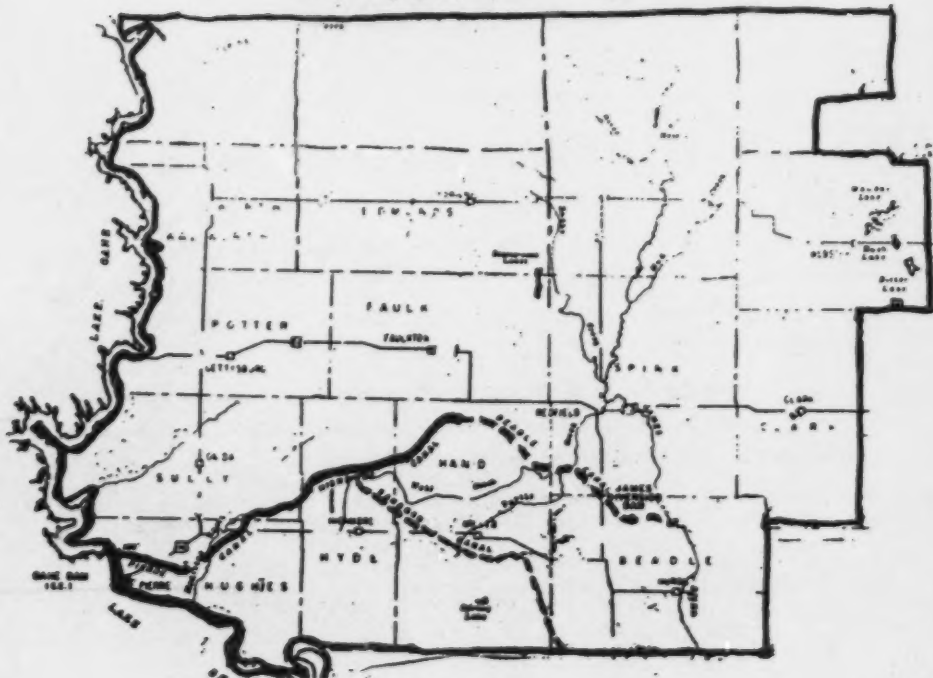
6. That CENDAK hold public meetings and that minutes and general project plans be on file in the county auditors' office. Information gathered on soils studies be public information.

^{/1} The 17,000 acres presently acquired by the Bureau of Reclamation in the Blunt Reservoir site area results in \$23,000 in local tax loss each year.

Oahe Unit



CEN DAK-Proposed



7. Long-range plans must include formation of an irrigation district, or other entity able to accept obligations connected with irrigation projects.

8. The Subdistrict would not support further study of the area by the Bureau of Reclamation. If a study is to be done, it should be done by private independent engineers.

9. Items that must be addressed in the study are soils irrigability, costs of delivery systems, impact to the local government, environmental impacts, financing possibilities, land acquisition reforms, and benefits.

We agreed to support efforts to try to secure the financial benefits of the Oahe authorization for CENDAK and other projects. CENDAK withdrew their request for Subdistrict assistance with studies after raising enough to finance a preliminary study.

Pollock-Herreid Irrigation Project

The Pollock-Herreid Project has been studied by the Bureau of Reclamation for over 15 years. That, along with a \$3,000 per acre cost estimate caused local landowners to lose interest in the Bureau's plan. Private projects have been constructed along the river for 60% less money.

Campbell County gave up thousands of acres of fertile river bottom land to construction of the Oahe Dam and Reservoir. They want to use the existing authorization to secure funding for a buried pipe system.

The Oahe Conservancy Subdistrict Board is opposed to deauthorization of the Pollock-Herreid Irrigation Project and supports the concept of adjusting the present Congressional authorization so that it can be used to build a private project with private development as requested by local interests. Language in S 1553 is vague, but we are concerned that it may be aimed at deauthorizing the project.

Major Problems - Oahe Unit

There were a vast number of problem areas associated with the Oahe Unit which caused the Oahe Conservancy Subdistrict Board to call for its deauthorization. I would like to bring to the Committee's attention what we consider the 7 major problems.

Reduction of Tile Drains

The original Oahe plans called for approximately 18 miles of buried tile drain for each section irrigated. (See Attachments 2-5) Sometime between 1960 and 1965 apparently the Bureau of Reclamation made several cuts in the project plan to reduce total cost of the project going into authorization. Buried tile drainage was cut in half. This resulted in average drain spacing increasing from the 330 feet originally recommended, to 500 to 700 feet as called for in present Oahe plans. This resulted in the average water table over the project to increase, to three feet from the soil surface. There is no doubt that some soils would have been lost to seepage and flooding. It is also possible large areas of irrigation land could be lost due to salts. Also, the project did not have enough drainage figured in to protect non-project lands and the City of Aberdeen from seepage.

Reclassification of Lands

Land classification on Bureau of Reclamation projects determines repayment capability, drainage requirements, and other factors. Lands in the project area were re-classified, some from non-irrigable to irrigable during the period from 1960 to 1970. The reasons given for reclassification were not consistent with earlier soils and classification studies completed in the area.

James River

The Bureau of Reclamation had not yet developed an acceptable plan for handling return flows in the James River as late as 1977 even though the project was under construction. It appeared, from the information available that the project would not provide any measureable amount of flood control benefit and in fact could aggravate natural flooding on the James River due to a number of factors; accelerating storm runoff, massive dillution requirements, and project dewatering.

Cost

One factor above all caused opposition to Oahe and that was the total cost and the manner in which the Bureau of Reclamation determines project Benefit/Cost and feasibility. The basis of the farm budgets and economic assumptions used were unrealistic. The Bureau has a tendency to accentuate and exaggerate anything that might be to the project's advantage, and under-

rate any potential problems or expenses that might occur.

Land Acquisition

The procedures used by the Bureau of Reclamation to acquire land in the Blunt Reservoir area and along the proposed Pierre Canal were unacceptable. The entire process shows a general disrespect for property rights and rural landowners in general. In one case the Bureau acquired the property of an elderly widow for about half of what the land was worth, because she was confused and was afraid the Government could take the land and pay her nothing. Landowners were regularly not provided all their rights, and Bureau acquisition personnel regularly disregarded the Bureau's own regulations. The point was so bad that the "Landowners Bill of Rights" drafted by the Subdistrict Board following the hearings was even adopted and endorsed by a Legislation Task Force on Oahe Unit.

Public Information

The Bureau makes no real effort to inform the people who will be impacted by their projects, until the project is so far along that the landowner has little recourse. For example, canal routes and reservoir sites were well established and identified as early as 1960, but most landowners to this day have not been notified by the federal government as to how the project will effect them. Most of the information made available to the public by the Bureau about the project has been carefully written to avoid drawing attention, and avoids specific information whenever possible. Most persons affected by the project became aware of it (1) through contact by other farmers, (2) through information provided by the Subdistrict Board, and (3) when they were contacted by the Bureau about acquisition of their property.

Bureau of Reclamation - Out of Control

During the course of the last five years, we have found that the Bureau of Reclamation is virtually out of control. They were not responsive to expressed desires of the local contracting entity, the public, or for that matter elected Congressional officials. Their idea of working with the public generally involves contact and coordination with the Chamber of Commerce, County Agents, and the local newspaper publishers. Farmers are last on their list. Expenditures of funds for

studies or non-construction project purposes is virtually impossible to trace or justify. They regularly become involved in policy question and local elective politics. Credibility of the Bureau is so low in this area that frankly we wouldn't want them to assist with water studies or construction if they came free of charge. In the future, Congress would be better off if they provided matching study funds to local water projects and let them hire private engineers to complete the studies. Bureau engineers and technical people have not been responsive to the public because they are not answerable to the public they are supposed to be serving. All federal government is a little out of touch, but the Bureau would win the prize if one were given. The Bureau did more to kill the Oahe Project than any one thing.

CHART - A

1960 Report on Oahe Unit

	FIRST STAGE			ULTIMATE STAGE		
	Acres	Drain Cost	Per Acre	Acres	Drain Cost	Per Acre
West Lake Plain	174,000	\$ 87,140,000	(\$500.81)	174,000	\$ 87,140,000	(\$500.81)
East Lake Plain	87,000	46,403,000	(533.37)	271,000	134,770,000	(497.31)
Sub-total	261,000	\$133,543,000	(\$511.66)	*445,000	\$221,910,000	*(\$498.67)
Missouri Slope	37,000	\$ 24,540,000	(663.24)	37,000	\$ 24,540,000	(663.24)
	<u>*298,000</u>	<u>**\$158,083,000</u>	<u>(\$530.48)</u>	<u>*482,000</u>	<u>**\$246,450,000</u>	<u>(\$511.31)</u>

* Report on Oahe Unit, June 1960, page 11

** Report on Oahe Unit, June 1960, page 74

CHART - B

1965 Report on Oahe Unit

	Acres	Drain Costs	Cost Per Acre
West Lake Plain	174,000	\$ 41,638,000	(\$239.30)
East Lake Plain	271,000	58,585,000	(216.18)
Sub-total	*445,000	\$100,223,000	(\$225.22) *
Missouri Slope	50,000	26,440,000	(528.80)
	<u>*495,000</u>	<u>**\$126,663,000</u>	<u>(\$255.88)</u>

* Report on Oahe Unit, May 1965, page F-2

** From the 1960 report to the 1965 report

* Total drainage cost on the same 445,000 acres in the Lake Plain area went from \$221,910,000 (\$498.67 per acre) to \$100,223,000 (\$225.22 per acre) which represents a 55% decrease in total drain costs included in the project plan.

* On the West Lake Plain area where the total acreages did not change from 1960 to 1965 (174,000 acres) the per acre drainage costs were reduced from \$500.81 to \$239.30, or a 52.2% decrease.

CHART - C
Miles of Drains 1960 - 1965 - 1976

	<u>* 1960 Report</u>	<u>Miles Per Section</u>	<u>**1965 Report</u>	<u>Miles Per Section</u>	<u>***1971 & 1976 Report</u>	<u>Miles Per Section</u>
Main Drains	503	(.667)	503	(.650)	291	(.821)
Collector Drains	2,283	(3.031)	1,360 (+790)	(1.758)	644 (+353)	(1.817)
Tile Drains	<u>14,000</u>	<u>(18.589)</u>	<u>8,090</u>	<u>(10.459)</u>	<u>2,970 (+2,440)</u>	<u>(8.38)</u>
Acres Served	482,000		495,000		226,800	

* 1960 Report on Oahe Unit (page 54) (includes Oahe Lake Plain and Missouri Slope)
 ** 1965 Report on Oahe Unit (page F-2) (includes Oahe Lake Plain and Missouri Slope)
 *** "Information Sheets on Oahe Unit", 1976 (page 4) (doesn't include Missouri Slope) and
 Definate Plan Report 1971 (page ix)

Note that in Chart - C the total tile drains were reduced for 18,589 miles per section in 1960 to 10,459 miles per section in 1965 for approximately the same lands (482,000 vs 495,000 acres). This represents a decrease in miles of tile drains per section of 43.74%.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
REGION 6

REPORT ON
Oahe Unit

JAMES DIVISION — SOUTH DAKOTA
MISSOURI RIVER BASIN PROJECT

MISSOURI - OAHE PROJECTS OFFICE
HURON, SOUTH DAKOTA

JUNE 1960

Drainage System

Removal of irrigation water not consumed, as well as storm runoff from the Oahe Unit, will require an extensive system of surface and subsurface drains. These drains are designed to control ground water so as to protect the root zone throughout the irrigable areas, and to provide rapid and complete drainage of surface water to protect both the project works and growing crops.

There are four principal features of the drainage system, as follows:

(1) Main drains will make use of the natural drainage channels which are to be deepened, enlarged, straightened, or otherwise modified to permit them to serve as outlets for all surface and subsurface water coming from the Unit. There will be 503 miles of these drains.

(2) Collector drains will be open ditches which collect ground water from the tile drains and surface water from the surface drains, discharging it into the main drains. About 2,283 miles of collector drains will be required.

(3) Tile drains will be located under all irrigable land at the depth and spacing needed to control the ground water. There will be about 14,000 miles of tile drains.

(4) Surface drains will be provided as needed to convey farm wastes and storm runoff to the collector drains. Only 18 miles of surface drains will be needed because most farm-unit wastes will discharge directly into collector drains.

Farm drains for the disposal of surface water into the project drainage system from each quarter section under irrigation will be the responsibility of the landowner. All other drains, including subsurface drains within irrigated farm units and one surface-drain inlet for each quarter section under irrigation, will be built and financed as project works, and the costs of construction and operation and maintenance have been included in the project cost estimates. For the economic analysis, it was assumed that all drains associated with any given tract of land would be constructed prior to irrigation of that land.

The semidetalled surveys were made using the 1949 Region 6 Land Classification Standards adjusted to fit Oahe Unit conditions. Farm budgets were prepared to test these standards.

Detailed land classification standards were prepared with the benefit of the many years of study of the Oahe Unit soils. Additional farm budgets were prepared for these standards. The ability of the proposed project drainage system to remove excess subsurface water was relied upon in the establishment of the detailed specifications.

Irrigable Land

A summary of the irrigable land resulting from the detailed land classification surveys, as modified by irrigability studies, is as follows:

	Acreages			Total
	Class 1	Class 2	Class 3	
Missouri Slope	16,000	21,000	-	37,000
West Lake Plain	71,000	71,000	32,000	174,000
East Lake Plain	99,000	120,000	52,000	271,000
Totals	186,000	212,000	84,000	482,000

Drainability

For successful and permanent irrigation of the Oahe Unit, it will be necessary to remove the water which penetrates below the root zone of the crops. Because of the physical characteristics of the project lands, artificial aids to this removal will be required. Even if it were possible to control irrigation applications to avoid moving water beyond the root zone, such control would not be satisfactory because too little deep percolation will result in accumulation of salts in the root zone and a consequent loss of production.

The basic drainage criteria were that the noncapillary pore space of the upper four feet of soil must be drained in 48 hours, and 1.5 inches of water must move through the soil profile to the drains in 21 days. The 1.5 inches in 21 days is an estimate of the drainage water that will accumulate with normal operation on alfalfa fields, and is probably more than would be needed to maintain a salt balance. With these criteria met, it is believed that a salt balance can be maintained in the soil which will allow full agricultural production, and water tables will be held to safe levels. Drains designed to these criteria will be adequate to also remove seepage from laterals traversing irrigable lands.

To design drains which would achieve these objectives, it was necessary to obtain a large amount of information about the soils of the Unit to a depth of 10 feet, and a somewhat lesser amount of information to a greater depth. Studies were made by obtaining many soil samples at depths of from 0 to 10 feet and testing them for permeability, total porosity, noncapillary porosity, apparent and true densities, pH, electrical conductivity, exchangeable sodium, and gypsum. Borings were made to greater depths at some sites to determine depth to barrier as well as the general nature of the material.

Analysis of the data obtained shows that tile drains will be required under most irrigable land to drain the soils. Spacing of the tile will vary from location to location. On the Lake Plain, the spacing will average 330 feet, with an average tile depth of 9 feet. On the Missouri Slope, the tile spacing will average 200

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
REGION 6

REPORT ON
OAHE UNIT

JAMES DIVISION—SOUTH DAKOTA
MISSOURI RIVER BASIN PROJECT

APPENDIX F—DRAINAGE

MISSOURI-OAHE PROJECTS OFFICE
HURON, SOUTH DAKOTA

MAY 1965

Summary Sheets
May 1965

UNIT FEATURES (Continued)

Other Canals and Laterals (by areas):

<u>Area</u>	<u>Total length (miles)</u>
Missouri Slope	303
West Lake Plain	709
East Lake Plain	1,029

Drains:

<u>Type</u>	<u>Total length (miles)</u>
Main	503
Open collector	570
Closed pipe collector	1,650
Closed pipe relief	6,440
Surface	790

Note: About 128 small pumping units will be required to lift water from some of the closed pipe collector drains into surface main drains, and 3 relift pumping plants will be required on main drains.

ASSOCIATED FEATURE

Oahe Reservoir (existing, constructed by Corps of Engineers):

Storage capacity, elevation 1617 22,500,000 acre-feet
 Flood control storage above elevation 1617 1,100,000 acre-feet
 Normal water surface elevation (feet above m.s.l.) 1610
 Minimum water surface elevation (feet above m.s.l.) 1540
 Range in operating level (80 ft.) (feet above m.s.l.) 1620 to 1540
 Normal fluctuation of reservoir (feet above m.s.l.) 1610 to 1590
 Installed powerplant capacity 595,000 kilowatts

Drain summary by areas, Oahe Unit

<u>Item</u>	<u>Missouri Slope Area</u>	<u>West Lake Plain Area</u>	<u>East Lake Plain Area</u>	<u>Total Oahe Unit</u>
Gross areable area, acres	124,000	307,000	485,000	916,000
Irrigable area, acres	50,000	174,000	271,000	495,000

Miles of drains:

Main outlet	53	194	256	503
Surface	140	253	397	790
Open collector	40	206	324	570
Closed (pipe)	<u>2,660</u>	<u>2,340</u>	<u>3,090</u>	<u>8,090</u>
Total	2,893	2,993	4,067	9,953

Total costs:

Main outlet	\$1,136,000	\$7,587,000	\$10,215,000	\$18,938,000
Pumping plants	0	45,000	1,403,000	1,448,000
Surface	2,062,000	3,200,000	5,012,000	10,274,000
Open collector	552,000	4,860,000	7,615,000	13,027,000
Closed (pipe)	<u>22,690,000</u>	<u>25,946,000</u>	<u>34,340,000</u>	<u>82,976,000</u>
Total	\$26,440,000	\$41,638,000	\$58,585,000	\$126,663,000

Definite Plan Report _____
on Initial Stage _____

OAHE UNIT

_____ JAMES DIVISION
 _____ PICK-SLOAN MISSOURI BASIN PROGRAM
 _____ SOUTH DAKOTA

Schurr-attachment 4



U.S. DEPARTMENT OF
 THE INTERIOR
 Rogers C. B. Morton, Secretary



BUREAU OF RECLAMATION
 Ellis L. Armstrong, Commissioner

Harold E. Aldrich, Regional Director
 Region 6, Billings, Montana

January 1971

(Revised August 1971)

Introduction

Irrigable acreages by areas of the Oahe Unit are as follows:

<u>Area</u>	<u>Acres</u>
West Lake Plain	174,000
East Lake Plain	271,000
Missouri Slope	<u>50,000</u>
Total	495,000

On January 5, 1965, under sponsorship of the Oahe Conservancy Sub-District and other water resource interests, the landowners in the Lake Plain voted to form the first two irrigation districts; namely, the West Brown Irrigation District and the Spink County Irrigation District.

Upon formation of these irrigation districts, the board of directors of the Oahe Conservancy Sub-District requested the Bureau of Reclamation to prepare a report on an initial stage of the Oahe Unit with the irrigation districts as the nucleus of the initial stage.

Projections from detailed land classification surveys of representative block areas in the Lake Plain indicated that there would be about 155,000 acres of irrigable land within the two irrigation districts.

The board of directors of the Oahe Conservancy Sub-District anticipated that additional landowners would petition to be included in the two irrigation districts when the prospect of irrigation development in the area became more imminent, and they requested that the initial stage consider irrigation of 190,000 acres of land.

Project Plan

The collector drains and the surface drains required to remove surface irrigation wastes and storm runoff would outlet into main drains which would convey the drainage water to the James River.

It is possible that some drainage may be required for interspersed lands that will not be irrigated in the initial-stage development; however, no plans or costs are included for that purpose in the plan for initial stage. Approximately 60 small pump units would be required to lift water from some closed (pipe) collector drains into surface or main drains. In addition, one low-head relift pumping plant with a capacity of about 40 c.f.s. would be required on the main drain.

Additions and Enlargements for Future Expansion

Features that would need to be added or enlargement of features needed to accommodate expansion of the 190,000-acre initial stage to the 495,000-acre ultimate development, the general locations of which are shown on the general map, would include the following:

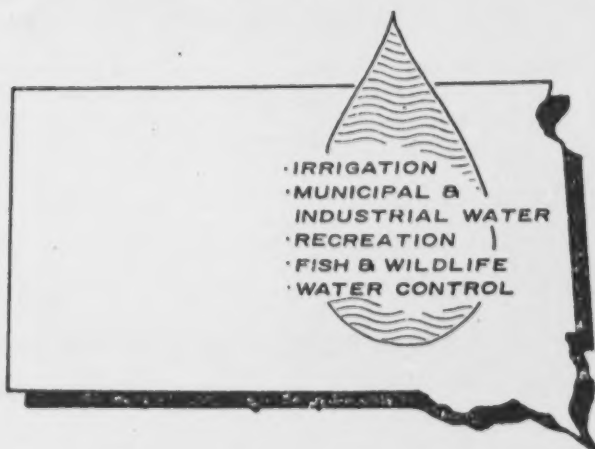
- (1) Addition of pumps and motors and waterways at Oahe Pumping Plant;
- (2) Enlargement of Pierre and Highmore Canals;
- (3) Addition of bifurcation works at the terminus of Highmore Canal, and construction of the 53-mile Beadle Canal from the bifurcation works to the James Canal;

"Information Sheets"

1976

THE OAHE UNIT

PICK-SLOAN MISSOURI BASIN PROGRAM



Missouri-Oahe Projects Office
Bureau of Reclamation
Huron, South Dakota

PUMPING PLANTS

Oahe Pumping Plant

The Oahe Pumping Plant is located at the downstream side of the left abutment of the Oahe Dam and is adjacent to the eastern edge of the structure housing the Oahe Powerplant. The pumping plant intake originates in a tee in the riser to the surge tanks used in conjunction with the existing seventh (most easterly) power tunnel with penstock and its attendant turbine and generator. The seventh tunnel through the Oahe Dam serves the seventh power generating unit of the Oahe Powerplant and also the Oahe Pumping Plant. The Oahe Pumping Plant will discharge into the Pierre Canal at elevation 1716. Construction of the structure to house the Oahe Pumping Plant started in May 1974.

Basic data for the Oahe Pumping Plant include:

<u>Oahe Pumping Plant</u>	<u>Initial Stage</u>
Capacity (c.f.s. - cubic feet per second)	1,200
Number of pump units (300 c.f.s. units)	4
Range in pump lift (feet)	95 to 175
Average pump lift (feet)	122

Other Pumping Plants

<u>Name</u>	<u>Pumping Plants</u>		
	<u>Number of pump units</u>	<u>Total capacity (c.f.s.)</u>	<u>Average pump lift (feet)</u>
James	6	500	28
Byron	8	1,200	71

Note: A total of about 134 relift pumping plants with capacities ranging from 6 to 335 c.f.s. would be required for distribution of irrigation water.

RELIFT (PLANTABILITY PLAN)

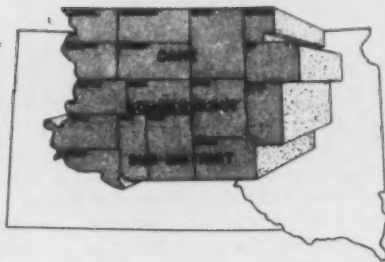
<u>Type of drain</u>	<u>Estimated total length (miles)</u>
Main 1/	291
Open collector	291
Surface	353
Closed pipe collector	530
< Closed pipe relief	2,440 >

Note: About 60 small pumping units will be required in the initial stage to lift water from the closed pipe collector drains into surface main drains, and one relift pumping plant will be required on a main drain.

1/ A large portion of the main drains would utilize existing intermittent streambeds and "dry draws."

EXECUTIVE COMMITTEE
JOHN SIEH - Groton
 Chairman
LEONARD NAESSIG - Webster
 Vice Chairman
ARNOLD SCHURR - Roscoe
 Secretary
ROGER HANSON - Pollock
 Treasurer
HAROLD HADRIK - Faulkton
CURT HOHN
 Manager

422 Fifth Avenue, S.E.
 P.O. Box 1889
 Aberdeen, SD 57401
 Telephone: 605/226-1122



DIRECTORS
BON FRANKENSTEIN - Badfield
 Spink County
HAROLD HADRIK - Faulkton
 Potter and Faulk Counties
ROGER HANSON - Pollock
 Campbell and McPherson Counties
DALE HARGENS - Oriskany
 Hyde and Hand Counties
KEN MARSH - Agate
 Salix and Hughes Counties
LEONARD NAESSIG - Webster
 Day and Marshall Counties
ARNOLD SCHURR - Roscoe
 Walworth and Edmunds Counties
JOHN SIEH - Groton
 Brown County
THEODORE SPAULDING - Huron
 Municipal Director
STEVE THORSON - Aberdeen
 Municipal Director
IRVING WESSEL - Huron
 Beadle and Clark Counties

September 18, 1981

Dear Senator Murkowski,

At the hearing in Pierre, South Dakota September 12th, the CENDAK Irrigation Project was discussed. The CENDAK group provided the committee with a copy of their preliminary study, but did not discuss it's content.

My testimony also included information on CENDAK and the Sub-district Board position. I would request that the enclosed news clipping be included in the record as part of my testimony.

Sincerely,

Arnold Schurr
 Arnold Schurr
 Osage Sub-district Board

Abbeville American News

Abbeville, South Dakota

Fri., Sept. 16, 1961

Study shows CENDAK cost will be much higher than expected

SIOUX FALLS, S.D. (AP) — A Denver consulting firm's study of the CENDAK water project shows the Missouri River delivery system would cost considerably more than supporters initially thought.

The study estimated the total cost of the project between \$330 million and \$723 million. Early estimates ranged as low as \$288 million, on up to \$500 million.

"We're disappointed that the figures were so high, but if nothing else, CENDAK has gone out and put

together some facts and figures for the people to make a decision on," CENDAK supporters Dave Hauschild, Pierre, said today.

United Family Farmers said the total cost for CENDAK could increase by another \$335 million if draining costs were added in.

CENDAK would use some Oahe Irrigation Project features to move Missouri River water eastward as far as the James River.

Hauschild said the cost was higher than expected

because the number of acres signed up for CENDAK eventually reached 400,000, double the original estimate of 200,000 acres.

"We're irrigating over double the acres that Oahe would have served. They were talking 190,000 acres and we're talking 400,000 acres. We're moving more water and irrigating more land, so naturally the cost would increase," he said.

But even the study's per-acre cost estimates on CENDAK were higher than expected. The report, assuming 335,000 acres

would be irrigated eventually, said the cost would be between \$1,610 and \$2,160 per acre. CENDAK supporters thought the per-acre cost would run in the \$1,000 to \$1,500 range.

"I'd point out that we're still \$400 to \$700 cheaper than Oahe was predicted with almost double the acres," Hauschild said. "I'm satisfied that it's cheaper than Oahe."

He also added that UFF, which first released the information on the study in a news release dated Thursday, had put the cost

at \$4,800 an acre in the group's September newsletter.

The study, done by CH2M Hill of Denver, was revealed to CENDAK's 18 member steering committee Thursday night.

By early October, Hauschild said county committees will meet with landowners to discuss the figures and to decide whether to go ahead with a feasibility study, which could cost another \$4 million to \$8 million.

"Initially everybody was kind of shocked at the price," he said. "But after

they had a chance to think about it, the steering committee said, 'Let's go ahead and talk to our county committees.'"

Hauschild said some landowners will probably withdraw from the project once they see the figures. But he said he'll still support CENDAK because "the necessity of irrigation in South Dakota is too great."

"We're not advocating that we build it or not. It's up to the people out here that have signed up their land," he said.

Senator MURKOWSKI. Thank you very much for your testimony, Mr. Schurr.

I believe the next gentleman is Mr. Ron Frankenstein.

Mr. Frankenstein.

Mr. FRANKENSTEIN. My name is Ronald Frankenstein; I am a farmer from Spink County.

Senator MURKOWSKI. It's what?

Mr. FRANKENSTEIN. Frankenstein.

Senator MURKOWSKI. Stein, I've got it now.

Mr. FRANKENSTEIN. Just like in the movies.

Senator MURKOWSKI. All right. [General laughter.]

They have a problem with my Irish name, too. Go ahead.

STATEMENT OF RON FRANKENSTEIN, MEMBER OF THE OAHE CONSERVANCY SUBDISTRICT BOARD OF DIRECTORS

Mr. FRANKENSTEIN. Just to comment on the previous remark by our chairman, our board is almost split on water development. The majority still puts very little emphasis on irrigation, but our minority is growing.

I'm a farmer from Spink County living 120 miles east of Pierre and about 4 miles west of the Jim River. I, and many of my neighbors, have land in the Spink County Irrigation District. Many of the farms in my area employ irrigation from either groundwater or the James River to provide the production necessary to sustain a family farm operation under our droughty weather conditions.

Irrigation is not new to my area. It dates back over 25 years on a number of farms. Now both dryland farmers and irrigators now understand the vital necessity to modify the old Oahe program to bring water to those of us that need and want a project.

For the last 3 years I have been involved in a number of organizations and boards attempting to remove the old project, Oahe, from areas opposed to it and relocating it in areas where it is desired. My neighbors have supported my election as a director on the Spink County Irrigation Board, but again, there I am a minority member and my efforts to relocate the project have gone for naught.

Last November, Spink County farmers, of which there are some 900, elected me to represent them on the Oahe Conservancy Subdistrict Board. My candidacy emphasized three regional water concerns.

No. 1, support for the WEB project No. 2, extension of the Garrison project into South Dakota along the Jim River; and No. 3, making the most out of the Oahe authorization to provide irrigation, municipal and domestic water. This work now has evolved into what is known as CENDAK.

And with that, I am very thankful that the bill addresses all three of those concerns I have had.

Unfortunately in the past years, the Oahe Board has done everything in their powers to fight effort like CENDAK, and it's only recently that they have given it tongue-in-cheek support.

With this background, I turn my attention to the bill, Senate bill 1553. This bill attempts to satisfy the various competing factions in South Dakota and still present a strong position to the Federal Government. The bill as written does both.

If this bill is modified to weaken South Dakota's position further, it is doubtful I or most other South Dakotans could continue our support for it. Here is why:

Back in 1944 and the subsequent years, South Dakota gave up close to 500,000 acres of prime river bottomland for the Pick-Sloan program. One of the things we were to receive in return was a 495,000 acre Oahe irrigation project. The first stage of that, 190,000 acres, is what we're most familiar with.

It's interesting the letter of David Stockman is encouraging in that he supports WEB without any trade-offs. We all are happy with that. But he does indicate that the benefits of the Oahe authorization in the master contract may not carry over to other projects other than Oahe. I think that's unfortunate, because back 40 years ago, our farmers that were inundated by the reservoirs received only a pittance for their rich bottomland. Now 40 years later, the Federal Government says it costs too much to provide the benefits promised back then to South Dakota.

Returning to the bill, I am especially happy as Spink County's water representative that WEB, CENDAK, and the Garrison extension are provided for; WEB to be funded in total, and the CENDAK and Garrison studies to be completed. But I'm also thankful that the bill retains authorization of the Oahe project, so that at some future date, the CENDAK people and the people on the James River can use the Oahe authorization amended or modified to pull off their projects.

The Garrison extensions and the CENDAK program occur in the very same areas affected by the Oahe project. And I think that Oahe authorization will be most beneficial for South Dakota at that time in obtaining an irrigation and multipurpose project.

Governor Janklow has made it clear in recent weeks how closely allied our agricultural income is to precipitation and moisture, and how allied our average per capita income is to agricultural income.

One thing that should make irrigation development in South Dakota more pleasing to the Federal Government is that based on my experience, a farmer spends about \$100,000 on farm equipment and irrigation equipment per quarter section of development. Nearly all of this equipment is manufactured in surrounding States.

Using CENDAK, for example, some 2,500 quarter sections of irrigation, we're looking at a potential investment of \$250 million in farm equipment and irrigation equipment. Like I said, most of it manufactured in surrounding States.

Imagine the corporate and personal income tax potential for the Federal Government.

My only serious concern with the bill is section 3(a), the cancelling of our contracts.

Senator MURKOWSKI. Mr. Frankenstein, I wonder if you could summarize your remarks, please.

Mr. FRANKENSTEIN. I'm just about done.

The section 3(a), which calls for cancelling our contracts, the master contract provides that we pay \$4.28 per acre for 40 years to pay for the water distribution network, and that is a pittance, but it also is in

line with what the farmers received who were inundated many years ago.

I'd like to conclude by restating my support for the bill. It is the vehicle needed to satisfy the foes of Oahe here in South Dakota, provide funding for the WEB project, and fund the various studies needed to identify which projects can be constructed in lieu of Oahe or by amending that authorization.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Frankenstein follows:]

TESTIMONY ON S. 1553 and H. 4347

Sept. 12, 1981
Redfield, So. Dak.

My name is Ronald Frankenstein, I am a farmer from Spink County living 120 miles east of Pierre and 4 miles west of the James River. I and many of my neighbors have land in the Spink County Irrigation District. Many of the farms in my area employ irrigation from either ground water or the James River to provide the production necessary to sustain a family farm operation under our droughty weather conditions.

Irrigation is not new to my area as it dates back over 25 years on a number of farms. Both the dryland farmers and irrigators now understand the vital necessity to modify the old Oahe Program to bring water to those of us that need and want a project.

To this end I have devoted the last three years serving on numerous boards and organizations attempting to remove a project (Oahe) from areas opposed to it and relocating it in areas where it is desired. About 2½ years ago my area supported my election to serve as a director on the Spink County Irrigation Board. Most of my efforts on this Board were for naught as a majority is controlled by several farmers carefully watched by the UFF (United Family Farmers). The UFF are a number of large farming operations who have already taken over other family farms in their area by keeping vital irrigation development from these real family farmers. Without a means to increase productivity the family farm becomes less and less a viable economic unit and thus capitulates to the big farms.

Last November Spink County farmers, of which there are about 900, elected me to represent them on the Oahe Conservancy Sub-district Board. My candidacy emphasized three regional water concerns.

1. Support for the WEB rural water project
2. Extension of the Garrison Project into South Dakota along the James River assuring reduced spring flooding, improved water quality, and increased flows during peak water use periods
3. Making the most out of the Oahe Authorization to provide irrigation, municipal, and domestic water for the areas east of Pierre to the James River.

Over the last three years my greatest efforts have gone into utilization of the Oahe Project facilities to provide a massive water delivery system to provide the benefits outlined in (3) above. During the first two years of our work, the Oahe Conservancy Sub-district Board did everything in their power (legal and otherwise) to block the efforts of hundreds of farmers in their plight for irrigation development. In the end the farmers overcame and CENDAK was born. Now all you hear in South Dakota is how is CENDAK shaping up.

With this background I turn my attention to S. 1553/H. 4347. This bill attempts to satisfy the various competing factions in South Dakota and still present a strong position to the Federal Government. The bill as written does both. If this bill is modified to weaken South Dakota's position further it is doubtful I or most other South Dakotans could continue our support. Here's why Back in 1944 and in subsequent years South Dakota gave up close to 500,000 acres of prime river bottom land for the Pick-Sloan program. One of the things we were to receive in return was a 495,000 acre Cahe Irrigation Project to mitigate these losses in production. We're still waiting.

Now that inflation has escalated construction costs to ever higher levels, we hear David Stockman saying that any new project will likely not receive the benefits included in the Cahe Authorization and the Master Contract. Where is the justice? our farmers were paid a pittance for their rich bottom land. . . . now nearly 40 years later we're told it costs too much to extend to South Dakota the benefits committed them in previous years. Where is the justice? The next 500,000 acres won't come so easy!

Returning to the bill, I as Spink County's water representative, am particularly pleased that all three of my regional water concerns are addressed. WEB, CENDAK, and the Garrison Extension when realities will provide the water development needed to secure a strong future for farming in that area. I am thankful that the bill retains authorization of the Cahe Project so that it is available at some future date to be amended to accomplish the CENDAK project and Garrison Extensions. Both of these projects will serve the same general areas that were affected by the old Cahe Project plan and are excellent replacements for the outdated Cahe plan.

These projects will have profound impact on South Dakota as is evidenced by Governor Janklow's clear relationship of moisture to agricultural income to per capita income statewide. But, don't forget the impacts outside South Dakota. In our area it is common for a farmer to increase his farm and irrigation equipment investment by an average of \$100,000 per quarter section of irrigation development. Nearly all of this equipment is manufactured in surrounding states and using my example could mean \$250,000,000 in investment in equipment by CENDAK farmers alone. Imagine the corporate and personal income tax potential!

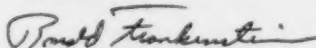
My only serious concern with the bill is section 3. (a) calling for the canceling of our contracts. I and my neighbors are parties to these contracts; currently the Master Contract limits the cost to me as an irrigator to a total average cost for the entire Water Distribution Works which would place water at the high point on my land to \$4.28 per acre for 40 years. Obviously an OM&R charge would be added to this charge and greatly increase the cost per acre, but my point is that the \$4.28 per

acre is consistent with the assistance given South Dakota's years ago for the inundated acres. In addition the Master Contract even provided for an extended payback option based on an Agricultural Parity Ratio.

I'd like to conclude by restating my support for this bill. It is the vehicle needed to satisfy the foes of Oahe here in South Dakota, provide funding for the WEB project, and fund the various studies needed to identify which projects can be constructed in lieu of Oahe or by amending that authorization.

Thank You.

Sincerely,



Ronald Frankenstein
Director, Spink County
Oahe Conservancy Sub-district

Senator MURKOWSKI. Thank you, Mr. Frankenstein. Mr. Dale Hargens?

STATEMENT OF DALE HARGENS, MEMBER OF THE OAHE CONSERVANCY SUBDISTRICT BOARD OF DIRECTORS

Mr. HARGENS. Thank you, Mr. Chairman.

Senator Abdnor, Senator Murkowski, I appreciate both of you taking time out of your busy schedules to come out here to South Dakota and hear our testimony today.

My name is Dale Hargens, I'm an elected director of the Oahe Conservancy Subdistrict Board representing Hand and Hyde Counties. I think it should be pointed out that two of the members on our 11-member board have been appointed and have not gone through the election process, and they also hold that official view that was stated just a little bit ago.

The counties that I represent are Hand and Hyde Counties. They are very active and very involved in the CENDAK project which we will hear more about later today. I'm going to center basically on why I think we need this irrigation to come our way.

I was chopping silage yesterday, and it took me a 10½-mile-long row of drought-parched land to load a dump wagon. And I haven't been farming all that long, but in the full time that I've been farming, I've seen the silage go from 2½-mile rows to fill that same wagon in the best, year, to the worst year when we didn't even have to pull out in the field because there wasn't enough there to go after.

Now I think the stabilization of the economy of South Dakota that would come about from irrigation such as through CENDAK would be just overwhelming. We have drought-parched areas in the State this year where the people are either selling their cattle or moving the herds out of State or to areas in the State which were lucky enough to get some rain. Many of my neighbors are doing this.

Our operation, which is a father-son operation, family farm operation, I would say that fully one-third of our operation is drought oriented. And by that I mean it takes the additional acres to put up the hay and carry it over so that we can get ready for these years that we know are coming sooner or later. And if we had just several quarters of irrigated ground, the additional income generated by going full capacity would be just overwhelming.

The money and the taxes and the jobs it would create because of the industry that we would create by getting this water, we would probably have more packing plants, keep more of our young people here in South Dakota. I think our population is probably one of the lowest States in the Nation because we just don't have anything out here to keep our young people here.

And I sincerely hope that the Senate and your committee will vote favorably on Senator Abdnor's bill. I support it, and I think it's the vehicle that we need to solve the water problem in South Dakota.

Thank you.

Senator MURKOWSKI. Thank you for your testimony, Mr. Hargens. Mr. Kenneth Marsh?

**STATEMENT OF KENNETH MARSH, MEMBER OF THE OAHE
CONSERVANCY SUBDISTRICT BOARD OF DIRECTORS**

Mr. MARSH. Gentlemen, my name is Kenneth Marsh. I represent Sully and Hughes County on the Oahe Subdistrict Board.

They had their meeting this past Tuesday, and I would like to pass on a resolution which they passed at their meeting.

I live in Sully County; I farm in Sully County. I was elected some time before the commissioners asked me to present this for them. And I'll go on and read the resolution.

Whereas, the Sully County Board of Commissioners have deemed it advisable to show their support for the Oahe Conservancy Subdistrict Board, therefore, be it resolved that the Sully County Board of Commissioners supports the Oahe Conservancy Subdistrict Board and the actions said Subdistrict Board has taken, and be it further resolved that the Sully County Board of Commissioners is in favor of the deauthorization of the Oahe Project. And be it further resolved that due to the fact the Blunt Reservoir lies totally within Sully County and this County has lost considerable tax dollars already to the Oahe Reservoir and the Blunt Reservoir and will continue to lose tax dollars, now therefore, the Sully County Board of Commissioners request the Department of Interior return the Blunt Reservoir land to private ownership. Be it further resolved that the Sully County Board of Commissioners hereby requests the Congress of the United States of America to cease further funding of the Oahe Project.

This in the hopes that it would be moved and adopted, carried by a unanimous vote, signed by the five commissioners, with voting "nay," none.

And I have one other thing in regard to that that was just sought out. The Missouri slope proposal, which you don't hear much about anymore because it never got going too well, and one of the reasons was delivery to the Missouri slope from the Blunt Reservoir. And this was way back in 1956.

The problem is, I do not have copies with me, and it's a long report.

Senator MURKOWSKI. You may certainly submit it for the record. The record will be kept open for 2 weeks.

Mr. MARSH. But one of the major alternatives to be considered is the matter of providing service to the Missouri slope. The Missouri slope is in Sully County down from the Missouri River, and instead of pumping water out of the Blunt Reservoir and conveying it a distance of about 25 miles back to the arable land, it might be more desirable to pump water directly from the Oahe Reservoir near Forest City. Considerable pumping heads could be saved, much main canal could be eliminated, and possibly Blunt Reservoir would not be required.

There is an additional 20,000 to 30,000 acres of arable land in Potter County, which might be included in the Missouri slope if service to that area comes directly from Forest City because this land lies between Forest City and the Potter-Sully County line.

The high pump lifts required to serve the Missouri slope will result in high per acre electrical energy charges. It will be necessary in future investigations to make a detailed study of how this will affect the feasibility of developing the Missouri slope lands.

The need for the Blunt Reservoir should be thoroughly explored. It was originally included as the only regulating reservoir in the supply system. However, the present plan has three other regulating reser-

voirs closer to the Lake Plain, which makes Blunt Reservoir less vital to the system.

Should further studies prove it more economical to serve the Missouri slope directly from the Oahe Reservoir, then the value of the Blunt Reservoir may be lost entirely.

Now, the thing of it is, the water here from the Blunt Reservoir kind of runs in a triangle. The Missouri Slope Canal that sets——

Senator MURKOWSKI. Mr. Marsh, I wonder if you could summarize your remarks, please.

Mr. MARSH. OK. Actually, the Missouri Slope Canal is 37 miles long. It bends about 6 miles from the Missouri River. And it's for this reason that the project has never been accepted very well out there, and this is the commissioners' request I have given to support that.

Thank you.

Senator MURKOWSKI. Thank you very much, Mr. Marsh. Would you submit those two documents for the record, please.

[The documents follow:]

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
REGION 6

INTERIM INFORMATION REPORT

O A H E U N I T

James Division--South Dakota
Missouri River Basin Project

Missouri-Oahe Projects Office
Huron, South Dakota

June 1956

CHAPTER XI

FUTURE INVESTIGATIONS

Further and more detailed investigations will be required to firm up the plan, the costs, and the economic analysis of Oahe Unit. Part of these investigations will be for firming up preliminary figures, such as land classification, drainage costs, canal and lateral system costs, and part will be for exploring some alternate possibilities which could improve the plan and lower costs or even change the plan significantly.

The semidetalled land classification should be firmed up by making a detailed survey of representative portions of the area. Drainability data should be firmed up to confirm previous findings. Project formulation procedures will be applied to delete all tracts or subareas of land where costs of water service and drainage exceed the benefits. Main canal locations should be refined and improved, and more detailed cost estimates prepared. All other phases of the investigation will require more detailed study.

One of the major alternates to be considered is the matter of providing service to the Missouri Slope. Instead of pumping the water out of Blunt Reservoir and conveying it a distance of about 25 miles back to the arable land, it might be much more desirable to pump directly from Oahe Reservoir near Forest City. Considerable pumping head could be saved, much main canal could be eliminated, and possibly Blunt Reservoir would not be required. There is an additional 20,000 to 30,000 acres of arable land in Potter County which might be included in the Missouri Slope if service to the area comes from the direction of Forest City, because this land lies between Forest City and the Potter-Sully County line.

The high pump lifts required to serve the Missouri Slope will result in high per acre electrical energy charges. It will be necessary in future investigations to make a detailed study of how this will affect the feasibility of developing the Missouri Slope lands.

The need for Blunt Reservoir should be thoroughly explored. It was originally included as the only regulating reservoir in the supply system. However, the present plan has three other regulating reservoirs closer to the Lake Plain which makes Blunt Reservoir less vital to the system. Should future studies prove it more economical to serve the Missouri Slope directly from Oahe Reservoir, then the value of Blunt Reservoir may be entirely lost.

Another major alternative that should be investigated is in regard to the method of reaching the East Lake Plain. The plan presented in this report has many advantages such as availability of a reservoir to store James River flood flows and return flows for use when needed or to prevent floods, and also to provide reservoir storage close to the lands for operating flexibility. Its big disadvantage is that it is a long way around, requiring many miles of main canal and perhaps more relift pumping than a more direct route. A more direct route would be through the Faulkton Canal, Cresbard Reservoir, Scatterwood Canal, Scatterwood Reservoir and then east directly across the West Lake Plain and the James River. The canal would require substantial fills but once in the East Lake Plain, smaller canals would radiate in all directions to distribute the water over the area. This alternate plan for reaching the East Lake Plain should be studied and compared with the plan shown in this report.

Another matter that should be explored is the elimination of some of the pumps in the irrigation distribution system on the Lake Plain by making canal fills higher. Such a plan may have advantages both in construction cost and in operation. The present studies indicate that there will probably be sufficient material from drain excavation to achieve this.

Because the Oahe Unit will be developed over a long period of time, stage construction should be investigated. Certainly the large pumping plants with several pump units will not be constructed to ultimate capacity initially. Probably the construction of one or two of the reservoirs could be deferred until the additional regulation was required. Only that portion of the supply system will be constructed which is required for the immediate development. For instance, if the West Lake Plain is developed first, the Beadle Canal, Byron Reservoir, etc. would not be needed immediately.

Because of the uncertainties associated with irrigation of the till lands around the western and southern edges of the Lake Plain, they have been excluded from the Oahe Unit under the present plan. It was the opinion of the Board of Consultants, which was employed to study the drainability of Oahe Unit lands, that the till lands could not be successfully irrigated because of low subsoil permeabilities. Probably only the upper 18 to 24 inches of soil could be drained adequately to permit root growth and it has not been determined that this shallow-rooted plant growth would sustain an irrigated economy. However, the till soils which are located over a suitable aquifer can and should be irrigated on an individual farm basis using the aquifer as a source

BY ME OF SAID COUNTY
 :
 ON THIS 9th DAY OF SEPTEMBER 1921

I, Eileen H. Gerson, do hereby certify that I am the duly elected, qualified and acting County Auditor of Sally County, South Dakota and as such officer have the care and custody of all the files and records of said office;

That on the 9th day of September, 1921, the Board of County Commissioners of said Sally County made and passed a Resolution of which the attached is a true, correct and complete copy as will appear from the original of file in my office.

That a copy of said Resolution was by me incorporated at length into the Journal of Proceedings of the said Board of County Commissioners as a part of the minutes of the meeting at which the same was passed.

Witness my hand and the official seal of my office this 9 day of September, 1921.

Eileen H. Gerson
 Eileen H. Gerson, County Auditor
 Sally County, South Dakota

RESOLUTION NO. 81-21

WHEREAS, The Sully County Board of Commissioners has deemed it advisable to show their support for the Oahe Conservancy Sub-District Board, therefore,

BE IT HEREBY RESOLVED, that the Sully County Board of Commissioners supports the Oahe Conservancy Sub-District Board, and the actions said Sub-District Board has taken and

BE IT FURTHER RESOLVED, that the Sully County Board of Commissioners is in favor of the de-authorization of the Oahe Project and

BE IT FURTHER RESOLVED that due to the fact the Blunt Reservoir lies totally within Sully County and this County has lost considerable tax dollars already to the Oahe Reservoir and the Blunt Reservoir and will continue to lose tax dollars

NOW THEREFORE the Sully County Board of Commissioners request the Dept. of Interior return the Blunt Reservoir land to private ownership

BE IT FURTHER RESOLVED, that the Sully County Board of Commissioners hereby requests the Congress of the United States of America to cease further funding of the Oahe Project.

Now moved to adopt Resolution 81-21, seconded by Bayne.

Motion carried and Resolution adopted this 8 day of September, 1981.

Voting Aye

Voting Nay

Ervin Bayne

NONE

David Stump

William E. Snyder

David Brown

Commissioners absent and not voting:

NONE

Ervin Bayne
Ervin Bayne, Chairman
Sully County Board of Commissioners

ATTEST:

Eileen M. Gerken
Eileen M. Gerken, Auditor
Sully County, South Dakota

Senator MURKOWSKI. Mr. Curt Hohn?

Mr. SIEH. Mr. Chairman, Mr. Hohn has relinquished his time to Mr. Wessel.

Mr. WESSEL. With your permission.

Senator MURKOWSKI. All right, As a point of order, while we will accept the testimony of the gentleman you have suggested to take the place of Mr. Hohn. We are going to stick pretty much to the designated witnesses as listed rather than substitutes, but I assume that there won't be too many exceptions. So please go ahead, Mr. Sieh, and introduce the gentleman.

Mr. SIEH. Thank you, Mr. Chairman. Mr. Irving Wessel, a member of our board.

STATEMENT OF IRVING WESSEL, MEMBER OF THE OAHE CONSERVANCY SUBDISTRICT BOARD OF DIRECTORS

Mr. WESSEL. Mr. Chairman, members of the committee, I represent Beadle and Park Counties on the Oahe Board.

I remember once when I farmed south of Huron in Beadle County, one of the 15½ counties affected by the Oahe project. I am in favor of the deauthorization of Oahe for many reasons.

Many of my friends and neighbors found that they would be adversely affected by the wildlife mitigation which is mandatory under the contract for Oahe. When land is taken for wildlife mitigation, the Fish and Wildlife Service takes good productive land next to sloughs or other unproductive and unfarmable land. They know they already have the rough areas for habitat and want feeding areas for wildlife.

The statement has been made that South Dakota should be rewarded for the land they gave up for the reservoirs. Does it make good sense to take more productive land out of production just because someone else lost their land, which in Oahe would have been over 110,000 acres to irrigate 190.

The power of the irrigation districts is awesome when it comes to levying unlimited taxes and condemning land for drainage. These are two more reasons I want Oahe deauthorized. I have always believed my rights end where someone else's begin. I don't intend to drain my land onto someone else's, and I don't want my land condemned so others can drain their salts and chemicals on me.

Another part of this bill that worries me is that it grants far too much power to one man, the Governor.

I support the WEB authorization and other rural water systems and pipelines to the big cities. There is a great need for these. I support riverside irrigation where there isn't the need for big ditches, and our report also goes along in supporting irrigation along the rivers.

And one thing we don't need are people trying to push projects on us that aren't feasible. And I don't think we need the chamber of commerce or the Governor and his people telling us how to farm.

I've heard the members of the chamber of commerce say this was a blow to the economy of the Huron area to close the Bureau office in Huron. Now Mr. Stockman has stated that any project must start

out with the \$41 million debt for existing facilities in any trade-off for Oahe.

The taxpayers of some projects in the future are going to have to pick up that tab. Now I ask you, is that good for the economy? A good share of this was administrative costs; \$12 million was spent on Bureau salaries and study moneys plus travel expenses over the years.

And I might add I farmed on a dryland farm, I got my land paid for, and I did it dryland farming. And we've had less than 8 inches of rain this year, and we're cutting a truckload every half-mile round of silage. And we try to keep a good supply a year ahead, otherwise probably we would get sold. But there are dryland farmers making it, too.

And I thank you, Mr. Chairman, for this right to appear before you.

Senator MURKOWSKI. Thank you, Mr. Wessel. Does that conclude, Mr. Sieh, your statements?

Mr. SIEH. I believe it does, and thank you very much, Mr. Chairman.

Senator MURKOWSKI. Thank you very much, Mr. Sieh. I'd like to commend you for the democratic spirits that were evidenced by you and your board of directors. [Applause.]

We will take a short break.

[Whereupon, a short recess was taken.]

Senator MURKOWSKI. I will call the hearing to order. I would ask that those in the back, or invite them, at least, to a seat.

Our next witness will be the Honorable Clint Roberts, Congressman from South Dakota. Congressman Roberts, if you would please come up and take a seat of your choice and proceed with your testimony.

STATEMENT OF HON. CLINT ROBERTS, A U.S. REPRESENTATIVE FROM THE STATE OF SOUTH DAKOTA

Mr. ROBERTS. Thank you, Chairman Murkowski, for holding this hearing here in South Dakota, and our good friend, Senator Abdnor from South Dakota, it's good to have you back, Jim.

I have some prepared testimony. I'm going to be very brief and will turn my testimony in.

Mr. Chairman, the bill that we are talking about, Senate bill 1553, House Resolution 4347, is sponsored by all four of the South Dakota delegation. We in South Dakota, I myself, believe that the future of South Dakota is water development. I think the majority of the people of this great State understand that.

Under the leadership of our Governor at a meeting in Huron several weeks ago, the Governor brought together the many people from across this State and came up with some ideas of a new direction for water development in South Dakota. I think that the testimony that I have heard this morning has been excellent, and I understand you have much more.

I think what we need to recognize is the fact that our economy in South Dakota is agriculture. The main street of the small town is dependent on agriculture. So goes the small town that depends on the agriculture economy.

What irrigation could mean to South Dakota and all the people in the main streets, whether it be water for domestic use, water for livestock, irrigation, is the stabilization of our economy. As we know, we're on a roller coaster. We've seen the drought over the years, I'm a farmer and rancher myself. We build our herds, the drought comes along, we sell off, the price is low, we buy back, the price is high. It's constantly like that. It's a way, and it's very difficult.

But it goes beyond the present generation. I think most of us here recognize that the future in this great State is agriculture, and the future for our children, our grandchildren, is going to be on the land. Yet, we see it not able to support the family operation to any large degree. We see the operation getting bigger, less and less of the sons and daughters being able to stay on that farm.

If, in fact, we could put our water to use, one of the few natural resources that we have in this great State, I can then once again see our small towns flourishing and an economy that is stable that could bring about the finishing of more agriculture products.

We've seen transportation problems, and part of the reason for transportation problems over the years in South Dakota and the loss of our rail system is the fact that we've not been able to maintain a constant supply of the product that we raise. This is part of our problem.

Mr. Chairman, we did present this bill before the House Agriculture Committee earlier this week. As I told those people there, perhaps there are some things that we can do to make this bill better. If there is, let's get on with it. But for God's sake, let's get on with water development in South Dakota. And I think this bill is an honest attempt in the proper direction.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Roberts follows:]

Statement of the Hon. Clint Roberts
Subcommittee on Water and Power, Committee
on Energy and Natural Resources
September 12, 1981

Mr. CHAIRMAN, I APPRECIATE THIS OPPORTUNITY TO TESTIFY ON S.1553 / H.R. 4347, A BILL SPONSORED BY ALL FOUR MEMBERS OF THE SOUTH DAKOTA CONGRESSIONAL DELEGATION TO PROVIDE FOR WATER DEVELOPMENT IN OUR STATE.

THIS BILL IS THE CULMINATION OF MANY MONTHS OF WORK AND COOPERATION AMONG THE MEMBERS OF THE DELEGATION, SOUTH DAKOTA STATE OFFICIALS, AND THE CURRENT ADMINISTRATION.

I BELIEVE THIS BILL MAY ALSO REPRESENT THE LAST BEST HOPE SOUTH DAKOTANS HAVE FOR BEING COMPENSATED FOR THE TAKING OF ALMOST 540,000 ACRES OF PRIME BOTTOMLAND TO PROVIDE A VARIETY OF BENEFITS WHICH HAVE BEEN ENJOYED BY STATES DOWNSTREAM ON THE MISSOURI RIVER FOR ABOUT 20 YEARS NOW.

EXCELLENT DOWNSTREAM FLOOD CONTROL, INEXPENSIVE HYDROPOWER AND ENHANCED NAVIGATION BENEFITS WHICH HAVE ACCRUED TO DOWNSTREAM STATES AND THEIR CITIZENS FOR THE PAST TWO DECADES HAVE COST SOUTH DAKOTA RESIDENTS PLenty IN TERMS OF LOST REVENUES AND SURRENDERED AGRICULTURAL PRODUCTION, Mr. CHAIRMAN, AND THAT SHOULD BE CLEAR TO THE SUBCOMMITTEE AS

WE BEGIN.

I BELIEVE A BIT OF BACKGROUND MIGHT ALSO BE HELPFUL TO THE SUBCOMMITTEE. IT WAS A PASSAGE OF THE LANDMARK FLOOD CONTROL ACT OF 1944 AND THE PROMISE OF IMPLEMENTATION OF THE PICK-SLOAN PLAN WHICH SPARKED THE HOPES OF SOUTH DAKOTANS AND OTHERS IN THE MISSOURI BASIN STATES FOR FUTURE ECONOMIC STABILITY.

ALREADY, FLOOD CONTROL PROJECTS IN THE MISSOURI BASIN HAVE PREVENTED MORE THAN FOUR BILLION DOLLARS IN FLOOD DAMAGE THROUGH 1978. THE SIX MAIN STEM RESERVOIRS, FOUR OF WHICH WERE CONSTRUCTED ON SOUTH DAKOTA SOIL, HAVE PROVIDED OVER 11 BILLION KILOWATT HOURS OF RELATIVELY LOW-COST ELECTRICITY THROUGH 1980.

AND THOSE SAME RESERVOIRS HAVE PERMITTED OVER 3.3 MILLION TONS OF COMMERCE TO FLOW ANNUALLY DOWN THE MISSOURI, CREATING AND EXPANDING COMMERCIAL AND AGRICULTURAL SHIPPING CENTER, NONE OF THEM LOCATED IN SOUTH DAKOTA.

IN EXCHANGE FOR THE SACRIFICE OF OVER ONE-HALF MILLION PRIME ACRES, CONGRESS SEVERAL TIMES AUTHORIZED AND INDEED FUNDED PARTS OF THE Oahe PROJECT -- A PLAN FOR SUBSTANTIAL IRRIGATION AND MUNICIPAL WATER

BENEFITS FOR OUR STATE. THE PROJECT WAS SEEN AS AN EFFORT TO INSURE A DEGREE OF AGRICULTURAL ECONOMIC STABILITY FOR OUR DROUGHT-PRONE STATE.

OVER THE YEARS, THE OaHE PROJECT BECAME CAUGHT UP IN CONTROVERSY, AS THERE WAS SUBSTANTIAL INFIGHTING AMONG RIVAL POTENTIAL WATER USERS ABOUT WHETHER THE PROJECT WAS THE BEST SOLUTION FOR PROVIDING THE COMPENSATION OUR CITIZENS THOUGHT THEY WERE DUE.

IN 1977, SENATOR ABOUREZK INITIATED LEGISLATION TO DEAUTHORIZE THE OaHE PROJECT, AND ADDITIONAL CONTROVERSY SWIRLED AROUND THIS MOVE. COOPERATION WAS DIFFICULT TO FIND.

DURING THE LAST CONGRESS, THE OaHE PROJECT APPEARED ON THE CARTER ADMINISTRATION'S PROJECT "HIT LIST".

IN AN ATTEMPT TO SALVAGE SOME COMPENSATION FOR SOUTH DAKOTA, THE CONGRESSIONAL DELEGATION ATTEMPTED TO STRIKE AN AGREEMENT WITH SECRETARY ANDRUS IN EXCHANGE FOR DEAUTHORIZATION OF OaHE.

MR. ANDRUS GUARANTEED TO THE DELEGATION, IN WRITING, THAT IN EXCHANGE FOR THE DELEGATION'S SUPPORT OF OaHE DEAUTHORIZATION, THE CARTER ADMINISTRATION WOULD SUPPORT IMMEDIATE AUTHORIZATION OF THE IMPORTANT WEB PIPELINE, ALONG WITH RAPID REVIEW OF SOUTH DAKOTA'S WATER NEEDS AND

POSSIBLE AUTHORIZATION OF OTHER BENEFICIAL PROJECTS FOR OUR STATE.

SOMETHING LESS THAN THAT COMMITMENT ACTUALLY FOLLOWED.

THE STUDIES WERE NOT ACCELERATED, AND THE INITIAL FUNDING FOR WEB WAS NOT DISBURSED UNTIL THE 11TH HOUR, PRIOR TO THE CARTER ADMINISTRATION'S EXIT. WHILE OaHE HAD NOT YET BEEN DEAUTHORIZED, THE DELEGATION WAS FULLY PREPARED TO ASK CONGRESS TO DO SO.

WHEN I ARRIVED IN WASHINGTON IN JANUARY, MR. CHAIRMAN, I DISCOVERED THAT ALL BETS WERE OFF. INDEED, CHAIRMAN YATES OF THE HOUSE APPROPRIATIONS SUBCOMMITTEE ON INTERIOR WAS NONE TOO HAPPY WITH THE PROGRESS THAT WAS BEING MADE ON AN AGREEMENT, AND HIS SUBCOMMITTEE INDEFINITELY DEFERRED EXPENDITURE OF THE WEB FUNDS UNTIL THE OaHE PROJECT WAS DEAUTHORIZED, AND THOSE FUNDS ARE STILL DEFERRED.

INASMUCH AS I HAD NOT BEEN A PART OF PAST AGREEMENTS OR CONTROVERSIES, I ARRIVED IN WASHINGTON WITH A COMPLETELY OPEN MIND ABOUT SOUTH DAKOTA WATER DEVELOPMENT ISSUES SAVE FOR JUST ONE -- THAT OUR STATE SEEMED TO BE OWED A GOOD FAITH EFFORT AT COMPENSATION BY THE FEDERAL GOVERNMENT FOR THE HALF-MILLION ACRES WHICH WERE TAKEN AND WHICH HAVE PROVIDED IMMEASURABLE BENEFITS LARGELY TO OTHER STATES.

I WAS NOT WEDDED TO ANY PARTICULAR SOLUTION EXCEPT IT

SEEMED TO ME THAT WE MUST GET ABOUT THE BUSINESS OF BUILDING A CONSENSUS IN SOUTH DAKOTA SO THAT WATER DEVELOPMENT COULD GO FORWARD. I BELIEVED THEN AND CONTINUE TO BELIEVE THAT THE ONGOING STALEMATE AND FACTIONAL INFIGHTING OVER WHICH POTENTIAL PROJECTS WOULD BEST SERVE OUR STATE COULD ONLY DESTROY WHAT LINGERING OPPORTUNITIES WE HAVE TO DEVELOP OUR ECONOMIC POTENTIAL WITH FEDERAL HELP.

I SET ABOUT EXPLORING WAYS WE COULD MAKE THIS WORK, MR. CHAIRMAN, AND I AM PLEASED TO BE ABLE TO SAY THAT I BELIEVE THIS ADMINISTRATION IS LESS INTERESTED IN HIT LISTS THAN ITS PREDECESSOR AND APPEARS TO ME TO BE WILLING TO MAKE THAT GOOD FAITH EFFORT TO SEE THAT THE PROCESS OF COMPENSATION IS BEGUN.

AT MY REQUEST, SECRETARY WATT MET WITH OUR DELEGATION AND OUR GOVERNOR SEVERAL MONTHS AGO AND GAVE US ASSURANCES THAT THIS ADMINISTRATION FELT A MORAL COMMITMENT TO SEE THAT SOUTH DAKOTA WAS COMPENSATED FOR THE FEDERAL TAKING OF THESE VALUABLE AGRICULTURAL LANDS.

USING LAST YEAR'S DELEGATION AGREEMENT WITH THE PREVIOUS ADMINISTRATION AS A BENCHMARK, THIS LEGISLATION REAUTHORIZES THE WEB PROJECT, PROVIDES FOR THE STUDY OF OTHER SOUTH DAKOTA WATER PROJECTS

WHICH MIGHT BE DEVELOPED IN LIEU OF THE OaHE AND POLLOCK-HERREID IRRIGATION PROJECTS, AND WOULD MAKE AVAILABLE MISSOURI BASIN PUMPING POWER TO PROJECTS AUTHORIZED TO RECEIVE SUCH POWER BY THE FLOOD CONTROL ACT OF 1944.

I AM HAPPY TO BE ABLE TO TELL THE SUBCOMMITTEE THIS MORNING, MR. CHAIRMAN, THAT I HAVE RECEIVED THE ASSURANCES OF THIS ADMINISTRATION THAT IT WILL SUPPORT REAUTHORIZATION OF THE WEB PIPELINE AND QUICK RELEASE OF THE ALREADY-APPROPRIATED \$1.9 MILLION WHICH WOULD PERMIT CONSTRUCTION TO BEGIN ON WEB. I RECEIVED THESE ASSURANCES LAST TUESDAY IN A LETTER FROM OMB DIRECTOR STOCKMAN, AND HE HAS ASSURED ME THAT THE ADMINISTRATION'S SUPPORT FOR WEB IS NOT CONDITIONALLY TIED TO DEAUTHORIZATION OF THE OaHE PROJECT.

MR. CHAIRMAN, LET ME SAY IN CONCLUSION THAT THIS BILL MAY NOT BE PERFECT, AND MY FEET ARE FAR FROM LOCKED IN THE STIRRUPS ON IT.

AS A FARMER AND RANCHER MYSELF, I HAVE WATCHED OVER THE YEARS WHILE FACTIONS HAVE FOUGHT IN OUR STATE, AND I HAVE WATCHED STOCK PONDS GO DRY.

I HAVE WATCHED OUR FARMERS CONTINUE TO LOSE INCOME WHILE THE BITTERNESS AND RIVALRIES CONTINUED ALL THE WHILE DROUGHT PERSISTED. AND I HAVE WATCHED THE SPARRING IN THE PAST WHILE THOUSANDS OF CITIZENS

IN SOUTH DAKOTA ENDURE INFERIOR MUNICIPAL WASTE AND DRINKING WATER, MUCH OF WHICH IS BARELY POTABLE.

THE SPIRIT OF COOPERATION WHICH HAS EMERGED THESE PAST SEVERAL MONTHS ON FINDING SOLUTIONS FOR OUR WATER PROBLEMS HAS GIVEN ME SOME HOPE.

OUR GOVERNOR HAS EXERTED OUTSTANDING LEADERSHIP IN AN EFFORT TO COALESCE THE STATE'S PEOPLE BEHIND WORKABLE SOLUTIONS WHICH THIS -- AND FUTURE CONGRESSES -- HOPEFULLY WILL PURSUE.

AND THIS ADMINISTRATION HAS SHOWN ITS WILLINGNESS AND DEDICATION TO PURSUE SOME MOVEMENT TOWARD COMPENSATION FOR OUR STATE -- EVEN IN LIGHT OF OUR VERY REAL BUDGETARY CONSTRAINTS.

I FEAR IF WE DON'T USE THIS OPPORTUNITY AS A BEGINNING, SOUTH DAKOTA WILL CONTINUE TO ENDURE THE ECONOMIC AND AGRICULTURAL SECOND-CLASS CITIZENSHIP WHICH WAS NEVER ENVISIONED NEARLY 40 YEARS AGO WHEN CONGRESS PAVED THE WAY FOR THE INUNDATION OF OVER ONE-HALF MILLION OF OUR CHOICEST ACRES WITH THE PROMISE THAT OUR PEOPLE WOULD GET SOMETHING IN RETURN.

NEXT WEEK, THE HOUSE AGRICULTURE SUBCOMMITTEE ON CONSERVATION, CREDITS AND RURAL DEVELOPMENT WILL MOVE AHEAD WITH MARKUP ON H.R. 4347, COMPANION BILL TO S. 1553. I HOPE THE SUBCOMMITTEE CAN SEE FIT TO JOIN IN THIS SPIRIT OF COOPERATION AND MOVE FORWARD ON S. 1553 AND REPORT IT TO THE FULL COMMITTEE.

THANK YOU.

Senator MURKOWSKI. Thank you very much, Congressman Roberts, and the written testimony that you have will be submitted into the record, and we appreciate that very much.

The next witness is the Honorable Governor Janklow, Governor of South Dakota. Governor, it's a pleasure to welcome you to the committee hearing, and it's certainly a pleasure to be in your State this morning.

Governor, you certainly may proceed at your pleasure.

**STATEMENT OF HON. WILLIAM JANKLOW, GOVERNOR,
STATE OF SOUTH DAKOTA**

Governor JANKLOW. Mr. Chairman, Senator Murkowski and Senator Abdnor, we in South Dakota really appreciate the fact that you take the time and effort on a Saturday to come to South Dakota to hold these hearings.

Really for a long, long time, we, and I'm sure you have heard from people from all sides, all of whom say they speak for the people, all of whom say they speak for the landowners, and all of whom say that they do or don't have the answers to what we the people of South Dakota need for water development.

Senator Murkowski, we look forward to you coming back to visit our State again. We hope that this isn't a one-time effort.

Senator MURKOWSKI. Governor, I believe that, according to my staff, an invitation was extended by your office to have me come and do a little pheasant hunting, and I'll just put you on notice now, I accept.

Governor JANKLOW. Very good. That's what I was getting at. That's what I was getting at. Very good. [General laughter.]

Senators, I will be extremely brief this morning in the comments that I'd like to make. But I'd like to cover just a couple areas of ground.

I couldn't help but hear a comment by the Huron area chamber of commerce representative this morning, or one of them, when there was allusion to the fact of the chambers of commerce and their interest in water development. He suggested that the Huron Chamber of Commerce would make available coffee to those people that got here and had bad water, and they would make available drinking water from their municipal well, our sources for those people that thought they had good water.

But with respect, specifically, to this particular bill that's under discussion, which is Senate bill 1553, I'd like to cover just a little bit of background.

First of all, we have the spectre of Oahe that's been raised over our heads for over a decade. And unfortunately, it's reached the point for the last half a decade where it has literally almost torn South Dakota apart. People run for office being for or against it. The net result is that that is one area of our State in which we have no water development, and we have probably faced the prospect that we will never have any water development there until we in South Dakota get our own act together.

We're foolish if we think somebody is sitting around the Congress waiting to appropriate sums of moneys to us for projects that we really can't agree on ourselves out here in South Dakota. And we

hear a lot of talk about David Stockman and what he approves of and doesn't approve of, and I have tremendous admiration for Mr. Stockman and the job he's trying to do.

But sometimes we forget the fact that he hasn't been elected to the Congress of the United States. He sits in neither the House nor the Senate. He used to, but he doesn't any longer. And he hasn't been elected to the executive branch. He's merely one of the advisors, the hired advisors to the President of the United States in the executive branch of Government.

So sometimes we put too much stock in what Stockman says. And I think that we ought to look back to the perspective of what is it that the elected representatives do and don't want to do.

We had a meeting with the administration, with the officials of the Interior Department, the White House, and some of the other executive agencies. And at that meeting were our entire congressional delegation, both Senators, both Congressmen, and myself attended. It was stated in the most clear and unequivocal terms the Congress and the executive branch were waiting for South Dakota to speak through its legislature and through its executive branch.

I happen to be the Governor today, obviously. Someone from another party was the Governor before me, and who knows who will follow me. But the net result is, is they stated very clearly that they are going to look to the statewide elected officials in South Dakota to speak for the State. And so, that gives an awesome responsibility to those of us that sit in that particular role.

Let's talk about Oahe for a minute. I think there can't be anything more eloquent than the testimony that Chairman Sieh gave from the Oahe Subdistrict Board. And I say that because of the unique things that he brought forward to this committee.

He says, and, by the way, I don't agree with all of the conclusions that he draws, but I agree with a lot of his facts. The letter from Mr. Stockman says that there will have to be a new examination, from Stockman's point of view, on the low-cost power. There will have to be a new examination on the interest rates under the Pick-Sloan projects, and there will have to be a new examination of the valuation criteria. That's the very reason that we should not eliminate and wipe out the Oahe authorization, because within that existing authorization, we do have Pick-Sloan low-cost power guarantees. Within that existing authorization, we do have low-cost interest costs for water development. Within that existing authorization, we do have valuation criteria that goes under the old standards which would hold us to the same standard that it did the other people in America.

The last thing we need to do is wipe out that authorization and start over with another one someplace under a new high-value, different valuation; under higher interest rates and no guaranteed power.

Senator Murkowski, you asked the first witness, I believe, Senator George Shanard, or one of the witnesses, the question about low-cost power. Under the Pick-Sloan legislation, low-cost power was allocated by law to be used for irrigation purposes. Until such time as that low-cost power is used, it can be used elsewhere, and it is being used elsewhere, including some of our neighboring States.

We have a neighboring Congressman who wants to become involved in our water development, or the elimination of some of it, to the advantage of his particular area. Because if he wins, some of that low-cost power to which we are entitled for water development goes to his area. And it will continue to go there until it is taken from them and given back to us to be used on our water development projects.

So although we speak the conservative line sometimes about holding the budget, what he's really doing is a fine job of representing the people in his area to the detriment of the people in our area. And I applaud him for the people in his own particular area.

When we talk about the Pick-Sloan project, what we are talking about is let's take the Oahe authorization that everybody in this room, and frankly everybody in South Dakota agrees is not a good project now. Should not be built under any circumstance now. Should not be built under any circumstance in the future. And let's change it into a project that does fulfill and fit the needs of the people of South Dakota.

You have introduced a lot of bills in the Senate. But during the course of the time from the time they were introduced, they have been changed. They have been modified. They have been amended. The final product may not always look, as you know, exactly like what you introduced. That's no different than our Oahe authorization now.

What we have authorized is not what we want in totality. But it does have some features of what we want. As a matter of fact, I would like to read you very briefly a quote from Chairman Sieh sent to me on behalf of the Oahe Subdistrict Board.

It's a breakthrough in this last decade of fighting in South Dakota. I received a letter from him addressed to me under the date of August 17, 1981 where he was commenting about a meeting that I held in Huron on August 13.

In the final page of that, he says, and I quote, and this is incredible because it's a real breakthrough, a change of position from the old hard just-get-rid-of-the-Oahe-project attitude. Quote:

We feel the acceptable compromise would be to not only cancel the contracts, but also to remove from the authorization those features which are not needed for CENDAK or other water proposals being considered. In this way, the low-cost interest, the low-cost pumping power and the federal subsidy currently embodied in the Oahe Authorization could be preserved for other projects as well as some of the Oahe features, while at the same time, firm assurance would be made that the old plan would not be constructed.

I was so astounded when I received that, I didn't respond to it. [General laughter.]

But a couple days later under the date of August 24, I got another letter from Mr. Sieh, the chairman of the subdistrict board. And he states in it again the position of the Oahe Conservancy Subdistrict Board, as adopted in May of this year, is that the acceptable compromise would be to not only cancel the contracts related to the old plan, but remove from the authorization those features, canals, reservoirs, et cetera, which are not needed for CENDAK and other water proposals be considered.

In this way, the benefits embodied in the 1968 Oahe authorization and some of the features could be preserved for other projects.

Senators, that's exactly what I ask you today on behalf of the people of South Dakota. Let's stop Oahe where it's at, which we've done, and give us the opportunity to work with you people in the Congress to turn it into the features that we need.

The last thing I will say is that it is no different than someone who builds a house. The analogy I always draw is once you've got the basement and poured it and put the first floor in and put up one of the walls, if you decide to change it, you don't tear out the wall, tear up the basement, fill in the hole and tear up the grass and start over, you stop. And from there, you go modify or amend it.

It's not different than the great pipeline that was built through your State, Senator. As it was being built, they came up with some better ideas on how to do it to better conserve and protect some of the wildlife and some of the vital interests and the delicate tundra that you have in Alaska. And they modified it as they went. They didn't tear up the whole Alaska Pipeline and go back to ground zero and start over.

And we in South Dakota are asking you for that same opportunity. So, really on behalf of the people of South Dakota, I would like to say that I agree with Chairman Sieh, the chairman of the Oahe Conservancy Subdistrict, let's not deauthorize Oahe, let's change it. Let's throw out all those features that we in South Dakota agree on we don't need, and let's keep those features that we agree we do need, and let's leave us to fight about those features we can't agree upon one way or the other.

In addition to that, let's add to it those features that will provide the necessary water development, and most important of all, all rhetoric, all games, all arguments aside, preserve for the people of this State the same right the other States have: Low-cost power, reasonable interest rates, and a proper valuation criteria. Because if we lose any one of those three, we ought to forget about water development, because we don't have any.

South Dakota, and I can quote Secretary Watt, in our meeting with the congressional delegation, he said do any of you people in the congressional delegation ever find anything in Federal law that says the Federal Government owes South Dakota anything? Not letters, not correspondence, but in the law. And our Congressmen and Senators shook their head no.

He said, I'm the last Secretary of the Interior that will ever even know you have anything coming under Pick-Sloan. The rest of America has had subsidized water development. You people in South Dakota haven't, and it's your turn. We think you merit special consideration.

What I ask you to do is, as you work toward the passage or the nonpassage of Senators Abdnor, Pressler, Roberts, and Daschle's bill, Senate bill 1553, that you keep in perspective, all of you, that if it's not the bill that you exactly want to pass, let's change it. But let's not throw out the one vehicle left that South Dakota may have to get moving on water development.

The final thing I'll say is, I heard a witness testify today that with 8 inches of moisture, he made money farming this year. I think that's marvelous. I think that's great. He's capable of doing something that most of the rest of the farmers in America are not capable

of doing, and that's making money farming with 8 inches of water. And I applaud the gentleman, and I'm happy.

But I am here to speak for the other thousands of farmers who live around him in the same county who weren't able to make money this year on 8 inches of water. And because God does not give us that water on a regular basis when we need it, He gave us the opportunity to convert that water to the place where we have the people and the land to make the kind of economic environment that we have to have to survive in the eighties and the nineties in the future.

Thank you very, very much for allowing me to testify. [Applause.]

Senator MURKOWSKI. Thank you very much, Governor. We very much appreciate your testimony and the appeal to unity within your State. I certainly commend you on the direct manner in which you answer your correspondence. [General laughter.]

Moving right along, the next witness, Mr. Don Barber, manager, Lower James Conservancy Subdistrict, Mitchell, S. Dak., accompanied by Olaf Jacobson and Tom Greenway.

Gentlemen, would you approach the witness table and please be seated and proceed with your testimony. I note that it's quite voluminous, and I would remind you of the 5-minute limitation and ask that you proceed.

Mr. BARBER. Mr. Chairman, I'm Don Barber.

Senator MURKOWSKI. Please proceed, and you may introduce your group.

Mr. BARBER. Don Barber, the manager of the Lower James Subdistrict. I'd like to introduce three members accompanying me: My chairman, Tom Greenway, who will present a paper; our consultant, Olaf Jacobson, who will present a paper; and Mr. Dave Waldner, subdistrict representative from the Hutterite Colony, who would like to present a 3-minute paper.

Senator MURKOWSKI. I would ask that Mr. Waldner keep his remarks, then, to the 3 minutes.

You may proceed.

STATEMENT OF DON BARBER, MANAGER, LOWER JAMES CONSERVANCY SUBDISTRICT, MITCHELL, S. DAK.

Mr. BARBER. Thank you, Mr. Chairman.

Chairman Murkowski, I want to thank you for the opportunity to address you and your committee in support of keeping the present Oahe authorization.

I represent the Lower James Conservancy Subdistrict, and I'd like to state at the outset that all of the testimony from the Lower James Subdistrict is official.

One of my colleagues is addressing our support of the Oahe authorization today and reasons why we feel it is absolutely essential for supporters of resource development in South Dakota to do so. I want to confine my remarks to another topic very closely related to the authorization issue.

As you no doubt know, in a memorandum dated February 22, 1978, the then Assistant Secretary of the Interior for Land and Water Resources directed the Commissioner of the Bureau of Reclamation, and

subsequently the Upper Missouri Regional Director of the Bureau of Reclamation, to develop an Oahe unit termination study.

We are extremely disturbed with the conditions spelled out by the then Assistant Secretary of the Interior for Land and Water Resources under which the study had to be made. It is our understanding that the study was limited to these specific options:

First, preserving and maintaining the facilities in their current condition; second, total restoration of sites to their original condition and disposal of lands and facilities; third, disposal of lands and partly completed facilities and partial restoration of the land. No consideration could be given by the study team to alternate or modify the uses of these Oahe facilities.

We realize that the Bureau of Reclamation had no alternative but to proceed under the direction of their superiors. But we feel that the refusal by the Assistant Secretary of the Interior for Land and Water Resources represented a continuing effort on his part to destroy water development in South Dakota and represented a potential waste of Federal money and manpower. And the study in its current form serves no useful purpose.

We respectfully ask that the Oahe authorization be maintained, and at the same time authorization be granted to the Bureau of Reclamation to open the termination study with specific instructions to study alternative uses for the land and the partially completed facilities for a modified water development program.

To sum up, Mr. Chairman, we request that all beneficial aspects of the Oahe authorization be retained for use within South Dakota, and we request the termination study be reactivated to look at constructive modification of the use of the Oahe facility, and that the pumps now stored in California be transferred to South Dakota as part of the project.

The Lower James/Fort Randall diversion project is now under—in the third year of a 5-year feasibility study to identify multipurpose water uses in our two subdistricts. Involved would be the delivery of Missouri River water to the James River Basin.

CENDAK is a proposal to irrigate several hundred thousand acres along the Oahe project canal route. Drought is the normal situation in South Dakota. We can't afford to lose these valuable assets while there are viable alternatives still available.

Third, through the new approach South Dakota is taking in water development and under the provisions of Senate bill 1553, we request that full consideration be given to the Governor Janklow's plan to modify and improve the James River in South Dakota to accept it, guaranteed delivery from the Garrison diversion unit.

As an expression of our steadfast and longstanding determination to see delivery of Missouri River water to the James River Basin for multipurpose uses in South Dakota, we would like to present your committee for your consideration this binder of resolutions, petitions, and statements.

Thank you, Mr. Chairman. I appreciate the chance to testify.

Senator MURKOWSKI. Thank you, Mr. Barber. May I inquire if the then Assistant Secretary of the Interior was Mr. Guy Martin?

Mr. BARBER. That's correct, sir.

Senator MURKOWSKI. Mr. Olaf Johnson, I believe you are next, sir.

**STATEMENT OF OLAF JACOBSON, MEMBER, LOWER JAMES
CONSERVANCY SUBDISTRICT, MITCHELL, S. DAK.**

Mr. JACOBSON. Mr. Chairman, members of the Committee on Water and Power, my name is Olaf Jacobson, I am a consultant with the Lower James Conservancy Subdistrict.

First of all, let me express my appreciation to you, Senator Abdnor, and your committee for your dedicated efforts in water development and for holding this hearing here in our capital city.

I am encouraged that through your efforts and those of your colleagues and the excellent work Governor Janklow and his staff are doing in promoting the use of our water resources, that we can get our act together and get on with the job that we so desperately need to do.

South Dakota sustained a very substantial loss in land, in tax revenues, and so forth, when the large reservoirs were created on the Missouri River. And, we have received little in the way of compensation for those losses.

It has been encouraging to note that at least our present Secretary of Interior Watt has acknowledged South Dakota does have a legitimate right to be reimbursed.

While I recognize we South Dakotans have not presented a united front in our development efforts in the past and have consequently thrown away some very great opportunities, it is becoming increasingly apparent that we and the economy of our State can no longer afford the luxury of this kind of a track record.

A viable and realistic course has now been charged. South Dakota lost over 500,000 acres of land under the Pick-Sloan Missouri Basin program. The vast majority of the benefits of those dams have gone to other States, particularly in the field of energy and flood control.

Sioux City, Iowa, as an example, was one of the prime benefactors. We have one great resource left out of this entire plan, and that's the water itself. And most assuredly, we cannot continue to sit idly by while our surplus waters are diverted elsewhere as much as our energy programs were.

Gentlemen, we urge you to preserve the Oahe authorization. This authorization is absolutely essential to maintaining the integrity of water development in South Dakota and assure us some compensation for the heavy losses the State sustained.

Building upon this authorization, I would submit that it is absolutely essential a no less favorable criteria be used than that which was used when the original study was made.

As you no doubt know, a previous national administration developed water standards so totally inequitable that, in essence, their use would virtually destroy obtaining a favorable benefit/cost ratio in those areas where livestock is a prime ingredient of a State's economy. Until such time as these inequities can be rectified, I would urge that the original standards be used.

To sum up, we support maintaining the Oahe authorization, alternate uses of existing facilities built under the authorization, the development of projects for rural and urban use that are feasible and have a majority of the local people supporting them, a revision of

water standards to make them usable and cancellation of the existing Oahe Master Contract.

Thank you very much for the opportunity to appear before you.
 Senator MURKOWSKI. Thank you very much, Mr. Jacobson.
 The next witness will be Mr. Tom Greenway.

**STATEMENT OF TOM GREENWAY, MEMBER, LOWER JAMES
 CONSERVANCY SUBDISTRICT, MITCHELL, S. DAK.**

Mr. GREENWAY. Senator Abdnor, and Mr. Chairman, really what I say here I don't think is real important after what the Governor has left here for his message today. I appreciate the opportunity to appear before you speaking in behalf of retaining the Oahe authorization. I do so fully aware of the fact that the Oahe project as originally engineered and designed will not be built.

If it is, indeed, the wishes of the majority of the people in the area directly involved in the contractual obligations of the present Oahe plan to withdraw, I firmly believe we should do so as our Governor has suggested—find a way of relieving them of their obligations.

By the same token, it is abundantly clear that a far greater number of our people want our resources developed and the Oahe authorization utilized to its fullest extent on more viable projects.

Their voices, I submit, must now be heard. The time is long overdue when we in South Dakota must unite in a common effort to utilize the greatest natural resource we have—abundant water—enough to meet virtually all our needs under normal conditions.

Hardly a week passes without one reading of the impending crisis in our water supplies in our Nation. Wasting our water supplies in the Missouri River is in itself a tragic situation.

States from here to the Gulf or Mexico are clamoring to get pieces of the supply. But even more tragic is the fact that small but highly vocal groups have stymied any real progress in South Dakota.

I am speaking in behalf of our Lower James Conservancy Subdistrict projects. We want water, and we want action to get that water for our urban as well as our rural constituency. But more importantly, we want a united effort in South Dakota to get a determined water development program underway.

If we can't be first, we'll take second. If that isn't possible, we'll settle for third because we recognize that water development in South Dakota, wherever it accrues benefits to, first of all, of course, those who are directly affected, but in the end, everyone benefits.

The only way this can be accomplished is to maintain the Oahe authorization. Modify it, build on it, or whatever. But let's not be pennywise and pound foolish and throw away the one real hope we have left in South Dakota to move ahead.

We are an agricultural State, and water is a prime ingredient in stabilizing our agricultural economy and our entire economy urban as well as rural.

I want to thank you for letting me submit my statements. I'm Tom Greenway. I'm Chairman of the Board of the Lower James Conservancy Subdistrict from Mitchell.

Senator MURKOWSKI. Thank you, Mr. Greenway, for your testimony.
 We will call the last witness on the panel, Mr. David Waldner.

Mr. Waldner, you may proceed. And I understand your testimony is about 3 minutes.

STATEMENT OF DAVID WALDNER, MITCHELL, S. DAK.

Mr. WALDNER. I am David Waldner, Rural Mitchell, South Dakota.

First of all, allow me to express my thanks and appreciation for the opportunity to appear before your Senate Subcommittee on Water and Power Field Hearing on Senate bill 1553, which I support.

I welcome the privilege of speaking in behalf of the Hutterite Colonies of South Dakota, of which I am a member, and the Lower James Subdistrict, to which I am an adviser, in support of maintaining the integrity of the present Oahe authorization.

While we support the desires of those individuals presently involved in contractual obligations under the Oahe authorization to withdraw from the project, we must recognize the wishes of a vast majority of those in our state who want to develop our water resources and who recognize, too, the inherent benefits of the Oahe authorization.

Those vested benefits—let's not only think of replacement of the land lost but the land used to be irrigated to be found only in the present authorization, are too precious to be thrown away or even traded for some project or projects of little or lesser value.

Our State is primarily an agricultural State. Our economy is agriculturally oriented. If the farmer prospers, so does the business. If the farmer suffers financially, then our economy is in trouble.

The farmer may be the least to benefit from irrigation. Those indirectly associated with irrigation, implement dealers or taxes, and so forth, benefit more than the farmer.

Limited as our natural resources are, we do have an abundance of water—the most important natural resource in our Nation. All we need to stabilize our economy is to use that resource wisely and prudently.

Through this water use, South Dakota could be a benefit even to the Federal Government instead of having the Federal Government pushing too many farms in South Dakota.

South Dakota must maintain the Oahe authorization. We ask you gentlemen for your help, help to keep that authorization. Our Governor has outlined a broad constructive proposal for utilization of the present Oahe authorization which, when implemented, should satisfy those who have raised their voices in opposition to the Oahe proposal, and at the same time start us on the road to genuine resource development for the vast majority of our people who recognize the potential value of our great resource.

We support the Governor. We support maintenance of the Oahe authorization. And for the good of all South Dakotans, we strongly support full speed ahead for the constructive development of our water resources.

This is all I have to say, and thank you very kindly for the time for my presentation, Mr. Chairman.

Senator MURKOWSKI. Thank you very much, Mr. Waldner.

Senator ABDNOR, do you have any questions of the panel?

Senator ABDNOR. No, I don't.

Senator MURKOWSKI. If not, gentlemen, we thank you for your testimony and you may be excused.

It gives me a great deal of pleasure to call upon the Honorable Larry Pressler, your other Senator from South Dakota.

Larry, welcome to the panel. My colleague from South Dakota.

**STATEMENT OF HON. LARRY PRESSLER, A U.S. SENATOR FROM
THE STATE OF SOUTH DAKOTA**

Senator PRESSLER. Well, thank you very much. First of all, let me thank you, Senator Murkowski, for coming to South Dakota. I think all of our audience knows that you are the new Senator from Alaska and that you are doing such an outstanding job.

Also, I want to pay tribute to my colleague, Senator James Abdnor, who has done such a great job in the U.S. Senate. It's such a pleasure to work with Senator Abdnor and also with Clint Roberts, who has done so well.

I might say that our entire congressional delegation is working together, Democrats and Republicans, to resolve this water crisis that we have in our State. For a number of years we have had differences in this State, and I think for the first time since I have been in politics we have a spirit of cooperation. And our entire delegation is working together.

And I also want to praise our Governor, Bill Janklow, for his leadership.

It seems to me that we went through a cycle in our State, as you probably gathered from the testimony this morning, a cycle when we couldn't decide quite what we wanted in our State. We went through a very difficult period.

And very good arguments were put forth on both sides during that period. Now, I think we have reached a stage where this bill we are talking about is a focal point and it's cosponsored by Congressman Daschle, Congressman Roberts, Senator Abdnor, and myself.

Let me say that I am prepared to cooperate in any way. Earlier this year I had a bill of my own, before this bill was worked out. But I have withdrawn my support for my bill and joined as a cosponsor of this so our entire congressional delegation could be together.

Our biggest problem has been deciding what we want from the Federal Government. It is very good as this hearing is a historical landmark in the sense that it's the first since we have gone through this cycle, so I want to commend Senator Abdnor and Senator Murkowski and our entire delegation for pulling together.

Let me also say this morning I have looked at the witness list, and you really have gathered here at this water meeting the people who have been involved in water development in our State and who will be. And you will be getting the full picture.

I believe that the bill before you today, S. 1553, which I have cosponsored, will do a great deal to assure that farmers in small cities will receive an adequate and reliable supply of water in many areas of South Dakota.

Let me state that I just last night was at my family's farm near Humboldt, S. Dak. And I saw our windmill, our pipes are pulled up, we have redug our well. It's down to 300 feet, and we have redug it

almost every year. But the well recharge rates are getting lower and lower. We are very much in need of rural water systems in this State, and I can say that from firsthand experience.

But we must utilize the Missouri River water, the water we have in our State, it is not only essential to agriculture for potential irrigation but for human use as well. Indeed, those farms that have a good supply of clean water, the litter weaning rate for hogs is much higher; the calf crops are much better. Good clean water is an essential to agriculture.

Now, I was first honored by being elected to Congress in 1974. Since that time, I have attended 221 water meetings. This is my 222d water meeting. And we have had many legitimate differences in our State.

I have a feeling that for the first time we are on the verge of determining our priorities and going forward. I have supported WEB since its beginning. And working with both Senator McGovern and now Senator Abdnor, we have twice persuaded the Senate to appropriate funds for the WEB project.

The authorization and funds for WEB, however, was dependent on an agreement with the Carter administration, to the effect that WEB would be initiated as quickly as possible if the Oahe question was resolved.

The Senate appropriated \$1.9 million for WEB in 1981, but the House did not, and the funds were lost in the conference committee. In an effort to restore those funds and provide studies of other water projects, S. 1553 was drafted and introduced by Senator Abdnor, Congressman Roberts, and myself and Congressman Daschle. This bipartisan effort, I hope will be a major step.

And I have written testimony summarizing what the bill will do. I shall not go through that now because I know the time constraints.

But I would like to again express my support for this bill and also urge that you take several things into consideration when the committee considers this legislation. The first regards Web, which I have already mentioned.

And also I think we should realize that this bill is not necessarily a final piece of legislation. It serves rather as a focal point for the important issues under consideration.

Some modifications will undoubtedly be made to this bill in order to fashion the most appropriate legislation. I am sure that after this hearing and recent hearing in the House of Representatives in Washington, we will have a better idea of what the people of South Dakota and others involved want in the legislation.

I am going to carefully consider the testimony presented here today. And let me say to your witnesses that my staff and I shall be reading every word of that is read. Sometimes at these meetings we have a feeling we don't accomplish very much, but I think this meeting will accomplish a great deal, because it's going to be read by the new Department of Interior, what the witnesses say here today. It's probably the most significant and comprehensive water meeting in our State's recent history, because the record that is built here today is going to be, I can assure you, that it is going to be looked at very closely by the Department of Interior and the other agencies in terms of our State's future.

We have many other water projects that I will be talking about to you ranging from the Gregory pump storage plant to some of the problems that you heard about yesterday in the western part of our State to the aquifers that are under our ground.

I have long felt that we have great potential in this State for running some type of plastic pipe alongside of railroad tracks to bring water for rural water systems. There are many things that we could do in a constructive way.

And I think that this hearing will bring those forth. And I know that not everybody is perfectly happy with this bill. Indeed, I am one of those who originally had sponsored another bill slightly differently, but in the spirit of cooperation that exists in our State, I am very much in support.

So, Mr. Chairman, I shall submit the rest of my testimony in writing. You have some very important witnesses. I again want to commend you and our entire congressional delegation, the Governor and his staff for their leadership.

Thank you very much.

[The prepared statement of Senator Pressler follows:]

TESTIMONY OF SENATOR LARRY PRESSLER
SENATE SUBCOMMITTEE ON WATER AND POWER
PIERRE, SOUTH DAKOTA
SEPTEMBER 21, 1981

I would first like to thank you for coming out to Pierre to hold these hearings and giving me the opportunity to testify.

As I well know, and so do most of the people at this hearing, water resource development is an essential step toward the expansion of South Dakota's economy. South Dakota's economy, like that of many midwestern states, prospers when agriculture prospers. In order to stabilize and expand South Dakota's economy, it is essential that farmers are assured of a reliable and adequate water supply. I believe the bill before you today, S. 1553, which I have cosponsored, would do a great deal to assure farmers a reliable and adequate supply of water in many areas of South Dakota.

Since being elected to Congress in 1974, I have spent much of my time promoting water development in South Dakota. I have supported WEB since its beginning, and I have twice persuaded the Senate to appropriate funds for the project. The authorization and funds for WEB were, however, dependent on an agreement with the Carter Administration, to the effect that WEB would be initiated as quickly as possible if the Oahe question were resolved. The Senate appropriated \$1.9 million for WEB in 1981, but the House did not, and the funds were lost in the conference committee. In an effort to restore those funds and provide studies of other water projects, S. 1553 was drafted and introduced by Senator Abdnor and myself. Representatives Roberts and

Daschle have also introduced identical legislation in the House, so this legislation has the bipartisan support of the entire South Dakota Congressional Delegation.

S. 1553 would do a number of things to promote water development in South Dakota. The bill would specifically:

- (1) Reauthorize the WEB project and restore the funds that were appropriated last year for WEB. The WEB Project is very popular in South Dakota and would provide 51 towns and 3,000 farms with good quality and a reliable source of water.
- (2) Provide for the study of other South Dakota water projects to be built in lieu of the Oahe-Pollock/Herreid irrigation projects. South Dakota's State Legislature this year passed a Water Management Plan naming various water projects as priority projects, and it is important that some of these projects are studied and considered for future development.
- (3) Provide low cost Missouri River pumping power to water projects authorized by the Flood Control Act of 1944. Low cost power is important to many of these projects if they are to be successful.

I would finally like again to express my support for this bill and also urge you to take several things into consideration when the Committee considers this legislation:

- (1) The Senate has twice acted to fund the WEB Project and the Department of the Interior and Department of Agriculture have both expressed their support for WEB.

(2) Also, this bill is not a final piece of legislation. It serves rather as a focal point for the important issues under consideration. Some modifications will undoubtedly be made to this bill in order to fashion the most appropriate legislation. I am sure that after this hearing and a recent hearing in the House of Representatives in Washington, we will have a better idea of what the people of South Dakota and others involved want in the legislation. I am going to carefully consider the testimony presented here and work closely with the rest of the South Dakota Congressional Delegation to make modifications in the bill that we feel are needed, and I would hope the members of your Committee would also become involved.

Thank you again for this opportunity to testify.

Senator MURKOWSKI. Thank you very much, Senator Pressler. Coming from Alaska, a State small in population, we have very much in common with respect to South Dakota. It's important that you have unity in your congressional delegation. And having had the pleasure of working with you and Senator Abdnor, I indeed feel that the citizens of South Dakota are extremely fortunate.

And also having met today Congressman Roberts and Governor Janklow, I can certainly say that I am most impressed. I am certainly looking forward to continuing to work with your congressional delegation.

I might just say in passing that I am certainly impressed with your dedication. Anybody that's gone to 222 water meetings really deserves, I think, some significant recognition. I might mention, we don't have many water meetings in my State, but we have a lot of watering holes, and I don't know that I have been to 222 water holes.

Senator Abdnor?

Senator ABDNOR. I would just like to thank Senator Pressler for coming back this weekend and helping with our hearing. As he said, we work very closely together in the Senate on our water development, and we are extremely happy that the whole delegation does.

We have had some difficult times with water discussions in the past. It does look like we are coming together, most of South Dakota and our Governor, in working together for some solution for putting the most valuable commodity we have, and it's the people themselves, to work for us and for benefitting South Dakota.

I just thank Larry for his comments.

Senator MURKOWSKI. Thank you again, Senator Pressler.

I might mention that there is a little murmur occurring from the back of the room, which I can understand. On the other hand, there are plenty of seats, and I would urge those of you who enjoy murmuring to murmur outside or come on up and sit down.

Further, I am told by the scorekeeper that the average witness is using 10 minutes of time, so I would urge those remaining to see if they can do a little better.

I would note that we are still on the first page of the witness list, which is nice, but it may be heating up later on this afternoon, and it may get warm in here, so perhaps we can move ahead.

We will call three witnesses up: Mr. Lyle Gardeman, manager of the Fort Randall conservancy subdistrict; Mr. Ed Glasgow, manager of the Black Hills conservancy subdistrict; Mr. Jerry Siegel, manager of the East Dakota conservancy subdistrict. We look forward to your testimony gentlemen, and welcome you to the committee.

I am told Mr. Siegel is not here. We will proceed with Mr. Gardeman.

STATEMENT OF LYLE GARDEMAN, MANAGER, FORT RANDALL CONSERVANCY SUBDISTRICT, LAKE ANDES

Mr. GARDEMAN. I am Lyle Gardeman, manager of the Fort Randall conservancy subdistrict. We have five counties in our district, and we are the smallest one of six.

It was quite a surprise to me when I came in and my name was on the agenda over there, and I have nothing really to give. But we have

papers that were sent in—testimony that was sent in to Mr. Abdnor's office.

Senator MURKOWSKI. Well, we appreciate that. That testimony will be entered into the record.

Mr. GARDEMAN. I have also Mayor Duncanson, he is a member of the Wagner Lake irrigation board, and he has testimony.

Senator MURKOWSKI. Mayor, would you care to go next? I had the pleasure of meeting you outside. I believe you have been mayor for 11 years.

STATEMENT OF RAY DUNCANSON, MAYOR, PIERRE, S. DAK.

Mayor DUNCANSON. Senator, we wish to thank you for holding field hearings on Senate bill 1553 in Pierre, S. Dak., to listen to our water development proposals.

We have had an opportunity to review Senate bill 1553 and are pleased with it. We are hopeful of your committee's full support.

In section 2(4), it proposes to develop water projects proposed by the Governor of South Dakota. We wish to state in the record that the Lake Andes-Wagner irrigation project was included in his plan as outlined in Huron, S. Dak., on August 13, 1981.

Section 4 of bill 1553 will grant the use of the Missouri River basin power. This is very important to all the irrigation projects in South Dakota and should remain as such. After all, we are part of the Flood Control Act of 1944 scheduled to receive such power.

There just isn't any question that we have all the information needed to start the final design and construction of a project. For the committee's information, we have made a private study, and the land-owners in our district have spent over \$1 million to date.

The South Dakota Department of Water and Natural Resources has five bound books concerning the results. Plus, the Bureau of Reclamation has made partial studies on parts of the proposed project.

Passage of this bill and all the information we have on hand for the Lake Andes-Wagner irrigation project could bring about early construction. We have needed this type of project for many years, and our project could prove the benefits of irrigation to the State of South Dakota and the Nation as a whole.

We have two maps. First, the project features map of Lake Andes-Wagner irrigation district, and second, Governor Janklow's proposed water development projects for the State of South Dakota.

Realizing that space and time are important and that we find it impossible to explain all the factors concerning our project or other water projects as proposed by the Governor of South Dakota, however, our able and excellent Senator, James Abdnor, is fully aware of us, and we are certain that he will assist in any manner needed.

We need to develop water in South Dakota, as this is perhaps the only way that we can raise our annual income. And the natural resources are right at our front door.

Again, thanks for this opportunity and your time.

Senator MURKOWSKI. Thank you, Mayor. We appreciate your testimony.

We will ask the next witness, Mr. Ed Glassgow.

STATEMENT OF ED GLASSGOW, MANAGER-TREASURER, BLACK HILLS CONSERVANCY SUBDISTRICT, RAPID CITY, S. DAK.

Mr. GLASSGOW. Thank you, sir. Mr. Chairman and members of the committee, my name is Ed Glassgow, I reside in Rapid City, S. Dak., and I am manager and treasurer of the Black Hills conservancy subdistrict.

The subdistrict is a multi-county unit of government with very broad responsibilities for the conservation and development of the water resources of the Black Hills area. The subdistrict is governed by a locally elected nine-person board of directors and supported entirely by a minimal tax levy in its area.

On behalf of our board of directors I would like to add our voice of support for Senate bill 1553. We in South Dakota have long been frustrated by the lack of progress in the development of our water resources. I, personally, have worked with the water development organizations and as manager of the subdistrict for over 17 years.

We have watched other States gain the advantage of major water projects in our State in terms of flood protection and power generation while our State has yet to see any of the promised benefits materialize.

The heavy dependence of our State on agriculture mandates some solution be found to help stabilize this basic industry and to diversify with other industries. The path to both of these objectives is through the use of the valuable water resources of our State.

We have long supported water development wherever in our State and in whatever form it was proposed.

Our board remains firm in that resolve yet today, although the two most significant projects we are pursuing to not propose to use Federal funding. One of these projects is the West River Aqueduct which proposes to build a pipeline from near here at Pierre across western South Dakota to help meet the water demands of energy development in eastern Wyoming with supplemental lines to serve communities and rural water systems along the way.

The other project is the waste effluent transport system which proposes to use the waste treatment plant effluent from the communities of the Black Hills area as a water supply for coal slurry line.

This would save the communities from the heavy expense of plant modifications and save the better quality underground or surface water that might otherwise be used for this purpose. The sale of this water would propose to fund additional water development in the area.

Both of these programs would rely on the standard bonding process by industry, the State or local government to construct the project, and the bond repaid by the sale of water service to the energy development industries without the involvement of the Federal Government.

S. 1553 would be a great assistance to our entire State, and we see our area being benefited through a hydrologic study of the Black Hills area. At this time, there is the threat of the depletion of our underground water resources by energy development outside of our

State, and we need this data to help identify potential problems and protect and appropriately develop these water resources.

We encourage your committee to act favorably on S. 1553 for the sake of the citizens of all the United States, as well as those of us in South Dakota who more specifically see the need.

Thank you.

Senator MURKOWSKI. Thank you very much, Mr. Glassgow.

Senator Abdnor, do you have any questions?

Senator ABDNOR. No.

Senator MURKOWSKI. Thank you, gentlemen. We very much appreciate your testimony, and anything that you would care to submit for the record I would remind you that the record is open for 2 weeks.

We will proceed with the WEB Association and call on Mr. Morris Kurle, chairman, who will be accompanied by Mr. Marland Eldredge, Mr. Oscar Huber, and Mrs. Zemlicka.

We would ask that you proceed to the witness table.

Mr. ELDREDGE. Thank you very much, Mr. Chairman. I would like to make a small change in our membership.

Senator MURKOWSKI. Please proceed.

Mr. ELDREDGE. Mr. Kurle called last night, and he is having trouble and couldn't make it this morning, so we would like to have Mr. Bob Yoder, the treasurer—

Senator MURKOWSKI. Would you repeat the name, Mr. Bob—

Mr. ELDREDGE. Yoder.

Senator MURKOWSKI. Yoder?

Mr. ELDREDGE. From rural Aberdeen.

Senator MURKOWSKI. Is that spelling Y-o-d-e-r?

Mr. ELDREDGE. Y-o-d-e-r.

Senator MURKOWSKI. All right. We will proceed with the first witness.

STATEMENT OF MARLAND C. ELDREDGE, VICE CHAIRMAN, WEB WATER DEVELOPMENT ASSOCIATION, INC., ASHTON, S. DAK.

Mr. ELDREDGE. Yes, Mr. Chairman. I'm Marland Eldredge, vice chairman of the WEB Water Development Association, and I would like to thank you very much for coming. We are very grateful and it's gratifying to be able to testify on an issue so vital as water.

Our testimony, we presented testimony in Washington on Wednesday, and since we put our testimony together that you have, there have been some changes, specifically Budget Director David Stockman's letter. So what I am going to do now is make some random remarks about WEB that I think should be made.

WEB was formed by people and municipalities in three counties; Walworth, Edmunds, and Brown, thereby the name WEB.

We now cover all or part of 10 countries, comprising 8 percent of South Dakota; 2,700 rural farms and ranches, 51 communities, 30 thousand people. Inside of our boundaries approximately 84 percent of the people are member of WEB.

We have to this point received over \$800,000 from its members—from our members for engineering and development of WEB. When the water user contracts and fees are all collected from 51 communities, well over \$1 million will have been received from our members.

In addition to this, we have taken advantage of a \$55,000 engineering grant and contract of the subdistrict, and we also hope to be able to take advantage of a \$3 million construction grant contract in the subdistrict.

Of the \$800,000 that thus far we have collected from our rural members, \$636,000 of this comprises the sum from water purchase contract fees. This amount we have invested throughout our subdistrict, or throughout our WEB area in various banks, and we are now operating off the interest at this point.

WEB is one water project that is very noncontroversial. We encompass inside our boundaries both the Brown and Spink irrigation districts. Of the 2,700 rural water contracts, 1,066 of these lie inside the Brown and Spink boundaries, the irrigation district boundaries.

The most active supporters of WEB are also the most active supporters of irrigation.

We have written and oral testimony and statements from the Office of Management and Budget, the Department of Agriculture, and the Department of Interior in Washington, the South Dakota congressional delegation, the Governor of South Dakota, the South Dakota Legislature, and the mayors and people, and on and on.

The WEB area must have a dependable, pure, clean supply of domestic water. If WEB seems impatient, I hope you will forgive us because this need is extremely critical.

For instance, my neighbor has invested \$25,000 in his wells in the last 2 years. They are deep wells, but he still has to pump them.

In the communities in WEB, the 51 communities that water tests were taken, I am sure that at least 40 to 50 of these would have to be shut down if using the Pure Safe Drinking Water Act.

Treatment plants in these communities are beyond the ability of the communities because a lot of them are around 100 in population and are mostly retired people. I wouldn't even begin to guess how many people in the WEB area are hauling their domestic and livestock water at this point.

There will come a time at the present rate of water nondevelopment in South Dakota when the communities of WEB will be ghost towns and the farms and ranches will be ghost farms and ranches. Because without drinking water for people and animals, desert dust will blow through the main streets and farm areas.

I would like to turn it over to Bob Yoder now, our treasurer, for some remarks that the WEB board has and some suggested changes in Senate bill 1553.

[The prepared statement of the WEB Water Development Association, Inc. follows:]



WATER DEVELOPMENT ASSOCIATION INC.

WALWORTH • EDMUNDS • BROWN • DAY • SPINK
CAMPBELL • FAULK • POTTER • McPHERSON

CHAIRMAN

Morris Kurie
Bowdle, SD 57428

VICE-CHAIRMAN

Mariand Eldredge
Ashton, SD 57424

SECRETARY

Gordon Nelson
Grafton, SD 57445

TREASURER

Robert Yoder
Aberdeen, SD 57401

DIRECTORS:

Howard Eldredge
Ashton, SD 57424

Kenneth Brockel
Java, SD 57452

Ed Blank
Rostlyn, SD 57261

Orville Baer
Roscoe, SD 57471

Dean Lemburg
Selby, SD 57472

STAFF

Ander's Christensen
2223 N. State
Aberdeen, SD 57401
225-0300

Joyce Scott
R. R. 2, Box 438
Aberdeen, SD 57401
225-0155

TESTIMONY

ON

SB 1553

September 12, 1981

SENATE SUBCOMMITTEE ON WATER AND POWER

Senator Frank Murkowski

Chairman

by

WEB Water Development Assoc., Inc.

P. O. Box 1911
422 Fifth Avenue S. E.

Aberdeen, SD 57401

Phone (605) 229-4749

Summary

The WEB Pipeline project, representing 2,700 rural farms and 51 communities, is a highly organized effort of 30,000 people, in all or parts of ten counties in northcentral South Dakota, to develop a central pipeline and water treatment system for supplying adequate safe drinking water for it's members. Since WEB organized in 1975, it has collected over \$800,000 in fees from members providing for engineering and development of the pipeline. \$165,644 was collected in 1975-1980 for a conceptual study, then an engineering report, proving the feasibility of the project. Based on the engineering feasibility report, WEB rural farm members paid \$636,000 in 1981 and signed water purchase contracts as a final determination of commitment. When collection of water fees from 51 communities is completed, well over \$1 million will have been collected. In addition the Oahe Sub-district, contracting sponsor for the Oahe project, has committed \$55,000 in financial assistance for engineering costs, and \$3 million in construction grants in support of the project. The WEB project was authorized by Section 9 of P.L. 96-355 (Rural Development Policy Act) in September of 1980 but will terminate September 30, 1981 if not extended.

HB 4347 Comments

The WEB Board has several concerns with HB 4347. WEB has been satisfied with the terms and conditions of it's present authorization (Section 9 of P.L. 96-355) that links full authorization and funding of WEB with deauthorization of Oahe. WEB's authorization has a history of linkage with Oahe that has been a requirement of several committees of Congress, the Office of Management and Budget, and the House-Senate Conference committee considering recisions. HB 4347 would remove the WEB-Oahe linkage which prompts WEB's concern that the bill may not be in conformance with the wishes of Congress or the Administration.

The WEB authorization will lapse September 30, 1981 if proper legislation is not implemented. WEB recommends new language be substituted to maintain the WEB-Oahe linkage in HB 4347. A new section (a) as follows:

(a) The WEB Rural Water Development Project, authorized by by Section 9 of P.L. 96-355 will remain authorized and not terminate on September 30, 1981.

The WEB project modeled and developed itself after similar projects that have been successfully developed by Farmers Home Administration Sewer and Water Programs. The project has been engineered and developed to the point of actual construction utilizing the Farmers Home Administration's rules and guidelines. WEB is concerned about Bureau of Reclamation involvement in the WEB project's development since the B.O.R. has not had the experience or the programs to administer or develop a project like WEB. The B.O.R. has paid little interest in the development of the WEB project. WEB has enjoyed a good working relationship with the Farmers Home Administration who remains in the best position, working with private engineers, to provide efficient oversight of the WEB project's development. WEB would recommend that Section (b) of the bill be changed to read as follows;

(b) The Secretary of Interior (hereinafter referred to as the "Secretary") is directed to proceed with the development of the WEB Rural Water Development Project by making available for immediate obligation \$1.9 million, and \$33 million for fiscal year 1982, except that such funds shall be made available directly to the WEB Association and shall not be transferred to the Department of Agriculture, however, the Secretary shall enter into cooperative memoranda of understanding with the Secretary of Agriculture providing for the continued Farmers Home Administration oversight of the technical development of the WEB project.

Statement

The development of the WEB Project would improve domestic water supplies in an area that has chronically been plagued with poor quality water supplies. Components of the domestic water supply system include an intake on Lake Oahe, a treatment plant, a network of underground buried pipelines, and appurtenances. The details of the proposed project are given in the (January 1980 Summary Report). Water quality data is available for 34 municipal water systems which serve 94 percent of the total town population to be served by WEB. The data indicates that certain chemical constituents in these existing public water sources exceed the maximum contaminant levels (MCL) of the Interim Primary and Secondary Drinking Water Regulations promulgated pursuant to the Safe Drinking Water Act (P.L. 93-523). Violations of the primary MCL for fluoride are found in 12 systems serving 5,846 people (33 percent of the town population). The MCL's for chloride, manganese, sulfate, and total dissolved solids are exceeded in a number of instances. Excessive hardness and sodium are also common undesirable characteristics found in existing supplies. All of the 34 towns have at least three and a majority have more undesirable constituents in their existing water supplies. The quality of existing private supplies is poor but cannot be firmly established due to lack of data. Generally, it is believed, their chemical quality is similar to public supplies except possibly for nitrate. Studies in other parts of South Dakota have shown significant numbers of farm wells contaminated by nitrate and bacteria. It is considered probable that similar problems exist in the WEB service area.

The WEB service area and all project features are located within the boundaries of the Oahe Conservancy Sub-district which is the contractual sponsor for the Oahe Irrigation Unit. The initial stage of the Oahe Irrigation Unit was

rejected by local beneficiaries through their elected Boards of Directors serving on the Oahe Conservancy Sub-district and the Spink County and West Brown Irrigation Districts. In fact, funding has not been endorsed for Oahe by Congress or the Administration for several reasons foremost of which is the lack of local support.

The position of the South Dakota State Legislature and the South Dakota Congressional Delegation is that other acceptable water development alternatives should be substituted. The Oahe Irrigation Unit was to be South Dakota's compensation for prime agricultural bottomlands lost to impounded waters in South Dakota that normally inundated downstream states.

The five federal mainstem dams authorized under the Flood Control Act of 1944 have continued to provide flood protection for 20 years. A take area of 506,000 acres was flooded for which South Dakota has received little benefit. The continued federal authorization and funding of the WEB project would enable South Dakota to redeem a part of the debt owed for lower states flood control. The WEB Pipeline Project is supported by the South Dakota Congressional Delegation, Governor Janklow of South Dakota, the Oahe Conservancy Sub-district board. The Oahe Conservancy Sub-district has contracted with WEB to provide \$3 million in grants for construction of the system. The Old West Regional Commission has provided staff and technical assistance. Congress has already appropriated \$1.9 million (deferred) for fiscal year 1981.

The WEB Pipeline Project would meet the domestic water needs of an area that was formerly to have received irrigation water from the Oahe Unit. Nine (9) of the seventeen (17) towns that were authorized to receive water from the initial stage of the Oahe Unit would be supplied municipal drinking water if WEB were constructed. The City of Aberdeen could receive 273 (MGY) million gallons yearly on an off-peak basis. Of the 2,700 farms who have contracted for WEB water, 1,066 farms have committed themselves in Spink and Brown counties including the Spink and West Brown irrigation districts who were to be the recipients of Oahe Unit water.

ATTACHMENTS

- (A) Summary of the WEB Funding Process (Two pages)
- (B) WEB Facilities Plan (One page)
- (C) Section I, Summary Report (Thirteen pages including map)
- (D) Explanation of the June 18, 1980 WEB-Oahe Agreement (One page)
- (E) Letter from (former) Interior Secretary Cecil Andrus to the S.D. Congressional Delegation proposing WEB-Oahe trade. (Three pages)
- (F) Joint Delegation Letter to (former) Interior Secretary Cecil Andrus from the S.D. Congressional Delegation accepting WEB Oahe proposal. (Two pages)
- (G) Letter-Request to the SD Congressional Delegation to introduce legislation extending the WEB authorization until HB 4347 can be passed.
- (H) Local News Article on WEB (Two Pages)
- (I) WEB Engineering Report-January 1980 (One volume)

Summary of the WEB Funding Process

March 21st-23rd, 1979, S.D. Delegation arrange meeting to explore WEB funding, possibility of utilizing an amended Small Reclamation Act to fund WEB.

July 16, 1979, WEB meets with Delegation to review status of Interior Study funds and progress on amending Small Reclamation Act.

October 15, 1979, WEB officials meet with Congressional Delegation, and Federal Agencies including: FmHA, HUD, ACOE, BOR to review early details of engineering report and discuss financing options.

November 26, 1979, WEB met with members of the Delegation to review WEB engineering report and develop a legislative plan of action.

January 29, 1980, South Dakota Congressional Delegation introduces WEB (free standing) authorization bills-S.B. 2230 & H.R. 6320.

The 1980 South Dakota Legislature pass SCR #8 to deauthorize Oahe in return for:

1. guarantee of Missouri River Water
2. 170,200 K.W. Hydro power at 2.5 mil rate
3. A cash appropriation of \$25 million/yr for 20 yrs.

April 2, 1980, WEB reps. testify before House and Senate Appropriations subcommittees on Energy and Water Development.

April 22, 1980, Cecil Andrus receives letter from OMB spokesman (W. Bowman Cutter) which stated, OMB would only support WEB on condition it would be part of an Oahe settlement.

April 23, 1980, letter from Alex Mecure & Guy Martin to the S.D. Deleg. states: The Administration will support authorization and funding of WEB as part of an Oahe settlement.

May 8, 1980, Officials representing the Oahe Sub-district, the State of S. D., the WEB Board, and others met with Assistant Sec. of Interior and OMB officials, USDA representatives. The Administration's position on the settlement included:

1. Strong support for authorization and funding of \$1.9 million for WEB's construction startup.
2. Full commitment to the \$70 mil. WEB project contingent upon a consensus agreement on Oahe.

3. Acceleration of funding for other water projects pending in the State after negotiations with S.D. Delegation.
4. Support for setting aside 1 mil. acre ft. of water (or more) for future S.D. water development.
5. Increased planning and studies by the WPRS in an effort to meet M & I water needs of James Basin cities.

May 12, 1980, letter to Interior from the S.D. Delegation stated: They were willing to introduce "by request" Oahe Deauthorization legislation. They also stated, the people of South Dakota should be heard at deauthorization hearings before Oahe is actually deauthorized.

THE JUNE 19th AGREEMENT, Interior Secretary Cecil Andrus requests that a "clean" deauthorization bill be introduced with passage not expected until September 30, 1981. The delegation returned a letter of acceptance meeting Administration's conditions in return for Administration support for WEB authorization and funding, also agreeing to reintroduce the Oahe deauthorization bill at the beginning of the 97th Congress.

September 15th and 16th, WEB receives authorization from Congress by amendment to H.R. 3580 of the Rural Development Policy Act.

November 15, 1980, Pressler's amendment to H.R. 7724 (#2618) provided WEB \$1.9 million as a line item appropriation.

February 1981, South Dakota State Legislature and Governor mandate into law list of 34 priority water projects (State Water Plan) to be considered as part of an Oahe settlement.

April 1981, House Interior Appropriations sub-committee acting on a rescission bill freezes WEB funds (\$1.9 million) because no action had been taken by the South Dakota Congressional Delegation to deauthorize the Oahe Unit.

July 1981, A House-Senate Conference committee defers the \$1.9 million until Oahe is deauthorized and recommends the jurisdictional problem of where the WEB bill belongs be solved and not split between Interior and Agriculture committees.

WEB RURAL DEVELOPMENT PROJECT

WEB Facilities Plan

POPULATION SERVED

- 30,000 people served (total)
- 51 towns 17,413 people
- 3,000 rural farm taps.....12,373 people
- State Line Water cooperative..... 700 people
- Includes livestock use equivalent to 516,000 head of cattle.

PROJECT FACILITIES

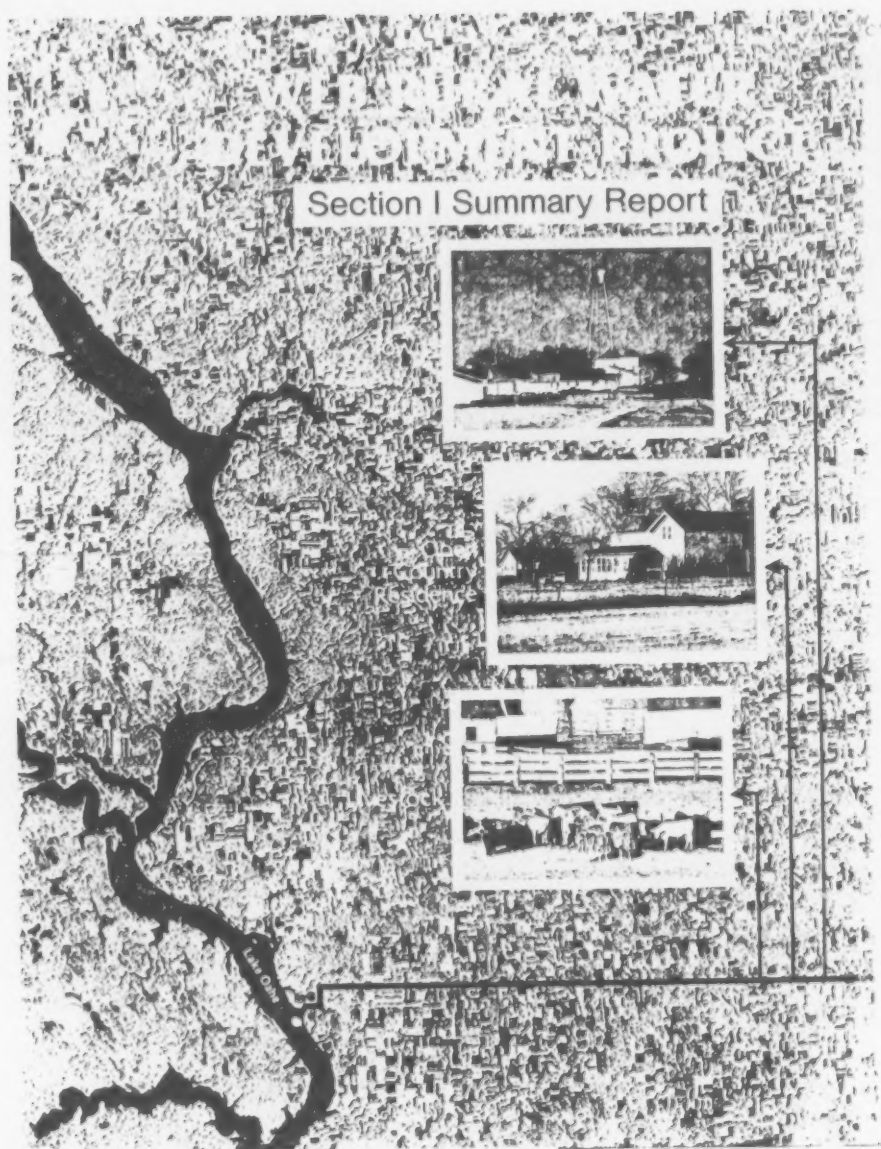
- Six million gallon per day system capacity
- Lake Oahe Intake and Pumping Station
- Water Treatment Plant
- 125 Miles of Main Transmission Pipeline (27 inches - 14 inches diameter)
- 307 Miles of Secondary Transmission Pipeline (14 inches - 4 inches diameter)
- 3170 Miles of Distribution Pipelines (5 inches - 1½ inches diameter)

PROJECT COST

- \$69,795,000 (million) TOTAL
- 72% (percent) Grant Feasible by Farmers Home Administ-standards
- \$53 million in Federal grants (Congress has authorized the WEB Project with a 75% grant)

USER COST*

- \$39 per month for the average farm bill (The average farm would use 15,600 gallons of water per month at \$2.51 per 1,000 gallons)
- \$1 (one) per 1,000 gallons of water to towns supplied on a bulk basis (An example would be Redfield, Groton, Ipswich, Selby)



1.0 SUMMARY

1.1 BACKGROUND INFORMATION

1.1.1 Organization of WEB

The WEB Water Development Association, formed in 1975, authorized the preparation of a water supply study which culminated in the publication of a "Feasibility Report Water Supply and Transmission Pipeline" dated March 8, 1977 (1977 Feasibility Report). Six county rural water steering committees were formed shortly thereafter and good intention fees of \$35 were collected from farms and open country residences. The towns in the service area also paid good intention fees generally ranging from \$10 to \$15 per 1000 gallons of estimated average daily water use. In January, 1979, the joint venture of Bartlett & West Consulting Engineers, P.A. and Boyle Engineering Corporation (BW/BEC) was retained to undertake further engineering work required for project implementation.

1.1.2 Summary of 1977 Feasibility Report

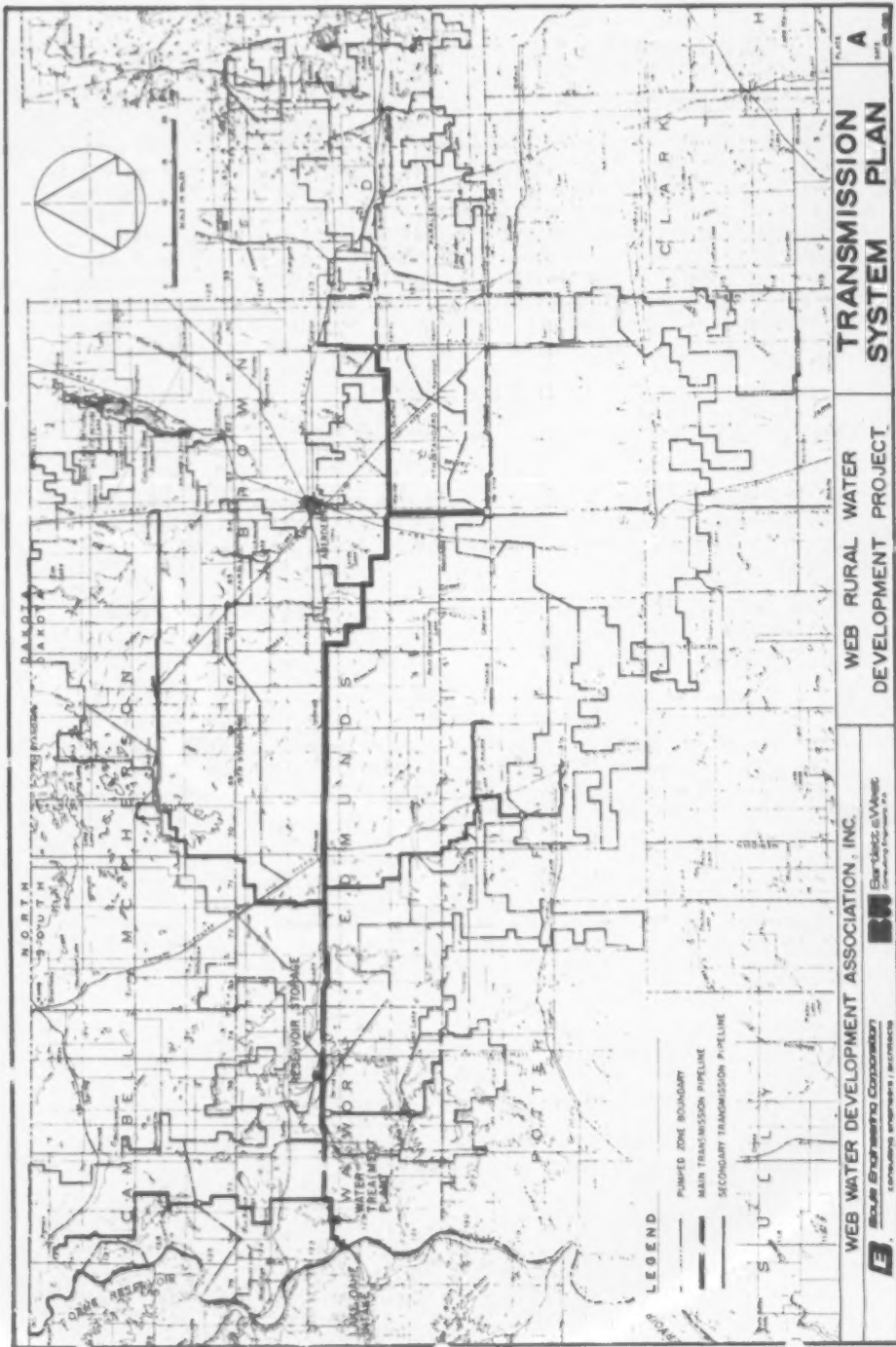
Two conclusions of the 1977 Feasibility Report provided the framework for this present study:

1. The most economical method of providing the WEB project area with an adequate supply of water, equalling or exceeding the Safe Drinking Water Act (PL 93-523) interim quality standards, was the WEB pipeline concept.
2. Grant participation, on the order of 50 percent of total project cost, would be required to limit municipal water rate increase to twice the average current rate.

1.1.3 Study Objectives

The objectives of the present engineering studies summarized in this report are to further advance the transmission pipeline system concept and the secondary rural water distribution system design based on present conditions. The major conditions which served as a basis for the 1977 Feasibility Report and which now changed are as follows:

1. The City of Aberdeen did not sign up as a member of WEB.
2. Portions of the six counties (Walworth, Edmunds, Brown, Campbell, Spink, Day) did not sign up for service. Additional parts of four other counties (Potter, McPherson, Faulk, Hand) were, however, added to the service area.
3. The population projections used indicated substantial growth through the pipeline design year of 2030. Short term census bureau population estimates indicate a slightly declining population trend in the present proposed WEB service area.
4. Inflation and lower user density on the rural distribution systems were recognized as cost increasing factors.



5. The only alternate plan considered which did not include Aberdeen was sized to provide peak daily flows of Missouri River water. It was felt that the use of groundwater for a peaking supply in conjunction with the pipeline should be investigated.

At the initiation of this present study, it was apparent that substantial funding assistance in the form of low interest loans and grants would be required for the WEB project. During the preparation of this study, federal legislation to fund WEB through the Secretaries of Interior and Agriculture was drafted. In the preparation of this report, it was assumed that the Farmers Home Administration (FmHA) would be the agency ultimately administering the funds.

1.2 AREA TO BE SERVED

The area to be served is shown on Plate A. Its boundaries were determined from the showing of interest provided by good intention fee payments and by the Missouri River. Portions of ten counties (Brown, Campbell, Day, Faulk, Hand, McPherson, Potter, Spink and Walworth) containing eight percent of the land area in South Dakota are included. Water would also be supplied at the state line for a group of users in North Dakota. The total service area population is 36,172 of which 30,526 or 84 percent would be served by the WEB Rural Water Development Project. Fifty-one (51) towns, 2925 farm and open country residences, and the State Line Water Cooperative (North Dakota) would be served.

1.3 EXISTING WATER SOURCES AND FACILITIES

1.3.1 Existing Public Facilities

Thirty-five of the towns with 94 percent of the total town population to be served have existing public water supply systems. Data available for 34 of these systems indicate that certain chemical constituents in these existing public water sources exceed the Maximum Contaminant Levels (MCL) of the Interim Primary and Secondary Drinking Water Regulations promulgated pursuant to the Safe Drinking Water Act. Violations of the primary MCL for fluoride are found in 12 systems serving 5,846 people. The MCL's for chloride, manganese, sulfate and total dissolved solids are exceeded in a number of instances. Excessive hardness and sodium are also common undesirable characteristics found in existing supplies. All 34 towns have at least three and a majority have more undesirable constituents in their existing water supplies.

1.3.2 Existing Private Facilities

The primary water supply source for household farm and open country residence use is wells. For farm livestock water, dams and dugouts also are a major source. The quality of existing private supplies is poor but cannot be firmly established due to lack of data. Generally, it is believed, their chemical quality is similar to public supplies except possibly for nitrate. Studies in other parts of South Dakota have shown significant numbers of farm wells contaminated by nitrate and bacteria. It is considered probable that similar problems exist in the WEB service area. The fact that 72 percent of the farm and open country residences paid a good intention fee indicates their desire to obtain a better water source.

1.4 GROUNDWATER DATA

Existing published and open file reports on groundwater in the WEB service area were reviewed to identify possible groundwater sources which could be developed to supply peak usage needs for portions of the WEB service area. The two major types of aquifers in the area are bedrock and glacial.

1.4.1 Bedrock Aquifers

Sandstone formations which underlie the entire WEB area have been developed extensively as water sources, particularly in the topographically lower areas of Edmunds, Faulk, Brown and Spink Counties. There are other bedrock formations below the sandstones which could possibly yield significant quantities of water but little information on them is available.

The depth to the sandstone varies from 850 to 2100 feet. Twenty-two towns to be served by WEB obtain their existing supplies from one of the three "flows" of the sandstone. Prior to development as source of water, the sandstone contained water under artesian pressure exceeding 250 psi at the land surface in Brown and Spink Counties. The head has declined to the point where natural well yields are low or the wells have ceased to flow. The source of recharge to the bedrock aquifers has not been definitely established.

Total dissolved solids in the sandstone water are quite high. Specific conductance is generally in excess of 2500 micromhos per cm. The predominant chemicals include calcium, magnesium and sodium. Major anions include bicarbonate, sulfate, and chloride. Excessive fluoride, iron, manganese, sulfate, chloride, sulfate, and total dissolved solids are common water quality problems in these supplies. Excessive sodium generally accompanied by a relatively low hardness is also a major problem. Desalination treatment would be required to improve the quality of the water from the bedrock aquifers sufficient to meet drinking water standards.

1.4.2 Glacial Aquifers

Glacial aquifers, capable of significant yields, are present in parts of the WEB service area. It is difficult to generalize about glacial aquifers because of their highly diverse nature. Extreme variations in the quality and quantity of water available may occur over relatively short horizontal distances. Recharge into glacial aquifers generally comes from the surface as rain or snow that percolates into the aquifer.

In general the quality of the water in the glacial aquifers is somewhat better than in the bedrock aquifers. However, excessive iron, manganese, sulfate, chloride, total dissolved solids, sodium, and hardness are common water quality problems. There are a few areas in or adjacent to the WEB service area where glacial groundwater could be improved to meet drinking water quality standards by conventional treatment. However, in most areas, desalination of the glacial aquifer water would be required to bring it into compliance with all standards.

1.5 WATER USE ESTIMATES1.5.1 Towns

Water use estimates were provided by city officials. Six towns with 38 percent of the total WEB town population have master meters. For the remainder of the towns, only rough estimates could be provided. Estimates based on per capita consumption figures applied to estimated populations were also used in many instances. The total town water use was estimated at 2.28 MGD (million gallons per day) average and 4.81 MGD peak.

1.5.2 Farm and Open Country Residences

Water use estimates were made using data provided on the good intention fee forms. Unit consumption figures were applied to present populations and livestock numbers along with the percent of livestock use from the system. On the average, the water users indicated that 59 percent of their livestock water would be taken from the system. The resulting average monthly water use is 32,300 gallons per month per hook-up. The percentage of livestock use and average monthly water use per hook-up are both very high when compared with existing rural water systems.

1.5.3 Total

The total estimated WEB water usage is 5.39 MGD average and 8.99 MGD peak. On an annual basis this is equivalent to 1967 MG (million gallons per year) or 6,037 acre-feet per year. These base water figures were revised for purposes of formulating alternative project plans as described in following sections.

1.6 PIPELINE SYSTEM PLAN DESCRIPTIONS1.6.1 Introduction

Four basic alternative pipeline system plans were investigated. All four contain the same basic components consisting of raw water intake and pumping station along the east shore of Lake Oahe on the Missouri River, a 3.8 mile raw water transmission pipeline, a water treatment plant, a treated water pumping station, a main storage reservoir, 432 miles of transmission pipeline, 3170 miles of distribution pipeline, five secondary reservoirs, and 16 secondary pumping stations. Plan No. 4 also includes development of five new well fields.

In all plans, the WEB system was designed as one integrated system. This is preferable to having a mainline system and various independent secondary systems.

The Oahe Conservancy Sub-District holds adequate future use water right permits for WEB. The Missouri River has adequate quantities of good quality water for the WEB project.

1.6.2 Method of Providing Service in Towns

Class A towns would continue to use their existing distribution systems and storage reservoirs. Under the recommended Plan No. 3, these towns would also maintain their existing sources for use in meeting peak demands in excess of the WEB system delivery capacity. The 27 Class A towns contain 89 percent of the

total town population to be served by WEB. Individual water users in these towns would continue to pay their bills to the town. These towns would pay WEB based on a water purchase contract.

Class C towns would continue to use their existing distribution systems but would be served by WEB on a demand basis due to inadequate storage. Except for higher rates, payment for water would be similar to that for Class A towns. The seven Class C towns have five percent of the total WEB town population.

Class D towns would be provided distribution systems by WEB and would be direct demand customers similar to farm and open country residence hook-ups. The 17 Class D towns have six percent of the total WEB town population.

The State Line Water Cooperative in North Dakota would be served as a Class A town except they would not need a source for peaking. Town classifications are tentative and may be modified in negotiations prior to final design.

1.6.3 Alternate Plan Service Capacity

The peak design capacity and average flow for each class of users in each alternate plan is shown in Table 1.1. Plan No. 1 provides peak daily capacity for all water users based on the water use estimates calculated from user supplied data.

Plan No. 2 is a modification of Plan No. 1. Under Plan No. 2, the WEB system does not include peaking capacity for the Class A towns. These towns would use their existing sources for peaking.

Plan No. 4 is similar to Plan No. 2 except that new groundwater sources developed by WEB as well as some of the existing groundwater sources would be used for peaking. Fifteen towns, with 6 percent of the WEB town population, and 1705 farm and open country residences would receive peak daily use of Missouri River water. Thirteen Class A towns with 53 percent of the WEB town population would receive Missouri River without peaking capacity from WEB and would use their existing sources to peak. Twenty-three towns, with 43 percent of the WEB town population, the State Line Water Cooperative, and 1220 rural taps would receive peak daily supply of mixed water from WEB. The well fields would be adjacent to WEB booster stations so that proper blending could be accomplished. The locations were selected based on existing incomplete geological data. Further investigation would be required to confirm the quantity and quality of available glacial aquifer water.

Plan No. 3 is a modification of Plan No. 2. The average design transmission flow rate to the farms and open country residences was reduced from one gallon per minute (gpm) to 3/4 gpm for Plan No. 3.

Softening of the Missouri River water is not a necessity but is a project option. Softening as a part of the WEB system appears to provide an economic advantage over home softening and should be considered.

One disadvantage of Missouri River water as compared with well water is the colder water temperatures in the winter. Water system freezing problems may be increased.

1.7 ALTERNATIVE SYSTEM PLAN COST ESTIMATES

1.7.1 Development Cost Estimates

The total project development cost estimates of the four alternative plans are shown in Table 1.1.

Plan No. 4 was compared to Plan No. 2 and not studied further because:

1. Plan No. 2 does not require new groundwater source development. The uncertainties and possible delays associated with groundwater development is eliminated.
2. More people receive superior quality Missouri River water in Plan No. 2 than in Plan No. 4.
3. Total estimated development costs for Plans No. 2 and 4 are nearly equal.
4. Annual revenue and operation costs are judged to be very nearly equal in Plans No. 2 and 4.

1.7.2 Administrative, Operation and Maintenance Cost Estimates

Estimates of administrative, operation, and maintenance costs based on current costs experienced by operating systems are also shown in Table 1.1.

1.8 REVENUE ESTIMATES

1.8.1 Farm Water Sales Base Estimate

Rate schedules were obtained from 12 major operating South Dakota rural water systems. The average of these rates was calculated and applied to the tabulated number of water users in each monthly water consumption range. The resulting annual revenue estimate is \$1,962,000 for farm and open country residences. The average yields are \$56 per hook-ups per month or \$1.73 per 1000 gallons of water sold.

1.8.2 Town Water Sales Base Estimates

1.8.2.1 Class A - An average yield value of one dollar per 1000 gallons of water sold was applied to the estimated annual water sales of 745 MGY. The resulting annual revenue estimate for the 27 Class A towns was \$745,000 or an average of \$4.02 per month per person.

1.8.2.2 Class C - The same average yield figure plus a demand charge of \$24 per hook-up per year was applied. For the 33 MGY estimated water sales to these seven towns the resulting estimated annual revenue is \$40,000 or an average of \$3.71 per month per person.

1.8.2.3 Class D - The same yield value with a demand and distribution charge of \$60 per hook-up per year was applied. For the 42 MGY estimated water sales

WEB Water Development Association, Inc.

TABLE 1.1

SUMMARY OF ALTERNATE SYSTEM PLANS

<u>Item</u>	<u>Plan No. 1</u>	<u>Plan No. 2</u>	<u>Plan No. 3</u>	<u>Plan No. 4</u>
<u>Design Capacity (MGD)</u>				
Peak				
Farm & Open Country	4.15	4.15	3.14	4.15
Class A Town	4.27	2.04	2.04	3.04
Class C Town	0.22	0.22	0.22	0.22
Class D Town	0.27	0.27	0.27	0.27
St. Line Coop. (ND)	0.08	0.08	0.08	0.08
TOTAL	8.99	6.76	5.75	7.76
Average				
Farm & Open Country	3.11	3.11	1.50	3.11
Class A Town	2.04	1.84	1.84	1.92
Class C Town	0.09	0.09	0.09	0.09
Class D Town	0.12	0.12	0.12	0.12
St. Line Coop. (ND)	0.03	0.03	0.03	0.03
TOTAL	5.39	5.18	3.58	5.27
<u>Development Costs (\$1,000,000)^{1/}</u>				
Construction	68.38	61.82	58.88	61.75
Other	11.06	10.01	9.54	10.03
Funding	1.59	1.44	1.37	1.44
TOTAL	81.03	73.26	69.79	73.47
Softening Addition	0.59	0.41	0.36	0.35
<u>Annual Production (MGY)</u>	2065	1986	1370	-
<u>Annual A,O&M Costs (\$1,000)</u>				
Without Softening	1,315	1,289	1,071	-
With Softening	1,387	1,358	1,119	-

November, 1979 prices. Inflation costs to Time of Construction NOT included.

to these 17 towns the resulting estimated annual revenue is \$63,000 or an average of \$4.86 per month per person.

1.8.2.4 State Line Water Cooperative - An average yield of one dollar per 1000 gallons was applied to the estimated 12 MGY water sales. The resulting annual revenue for this user is \$12,000 which is equal to an average of \$5.41 per hook-up per month.

1.8.3 Plans No. 2 and 3 Town Water Sales Estimate

Under Plans No. 2 and 3, the Class A towns are contractually limited to purchasing less water per day than their peak day demands. Data from four towns (representing 43 percent of Class A town population) indicated that for the given year, Plan No. 2 or 3 would have supplied all but eight percent of the total annual use by those towns. A judgement reduction value of ten percent was applied to total usage in estimating annual revenue of \$670,000 for 670 MGY water sales.

1.8.4 Plan No. 3 Farm Water Sales Estimate

Because of the extremely high estimated water use for farm and open country residence users, the WEB Board directed that the user furnished figures should be reduced to be more comparable with usage on other existing rural water systems. This was accomplished by reducing the livestock demand from 59 percent to 20 percent. The resulting water use estimate for farm and open country residences is 1.50 MGD or 548 MGY or 15,600 gallons per month per hook-up. The reduction in revenue was calculated on the basis of a judgement value of one dollar per 1000 gallons reduction in water sales. The revised estimated annual revenue is \$1,375,000 or \$2.51 per 1000 gallons of water sold or \$39 per hook-up per month.

1.8.5 Farm Water Sales Revenue Based on Other Rates

A revenue comparison between the proposed Clark Rural Water System rates and the "average" schedule was made. The proposed Clark rates would yield \$505,000 per year or \$14 per hook-up more revenue.

1.8.6 Total Plan Revenue Estimates

The total revenue estimated for each plan for purposes of indicating financial feasibility is summarized in Table 1.2.

1.2 PROJECT FINANCING AND FEASIBILITY

1.9.1 Financing

The estimated development costs, operation and maintenance costs and revenues are used to estimate project feasibility and federal financing for the various plans. This is shown in Table 1.2 for the basic project without softening. For purposes of calculating costs on a per hook-up basis, town population was converted to equivalent meters on a ratio of one-tenth and the North Dakota taps were converted on a ratio of one-fourth. The project total is 4,700 equivalent meters.

WEB Water Development Association, Inc.

TABLE 1.2

REVENUE AND FUNDING SUMMARY

<u>Item</u>	<u>Plan No. 1</u>	<u>Plan No. 2</u>	<u>Plan No. 3</u>
<u>Water Sales (MGY)</u>			
Farm & Open Country	1135	1135	548
Class A Town	745	670	670
Class C Town	33	33	33
Class D Town	42	42	42
St. Line Coop. (ND)	12	12	12
TOTAL	1967	1892	1305
<u>Annual Revenue (\$1,000)</u>			
Farm & Open Country	1,962	1,962	1,375
Class A Town	745	670	670
Class C Town	40	40	40
Class D Town	63	63	63
St. Line Coop. (ND)	12	12	12
TOTAL	2,822	2,747	2,160
<u>Annual A,O&M Costs (\$1,000)</u>	1,315	1,289	1,071
<u>Amount Remaining for Annual Debt</u>			
<u>Service & Reserve Payments (\$1,000)</u>	1,507	1,458	1,089
<u>Estimated Funding (\$1,000)</u>			
FmHA Loan	23,510	22,740	16,990
Non-Federal	4,200	4,200	3,600
Federal Grant	53,310	46,320	49,610
TOTAL	81,020	73,260	69,800
<u>Project Funding Per</u>			
Equivalent Meter (\$)	17,239	15,588	14,850
FmHA Loan Per Equivalent			
Meter (\$)	5,002	4,838	3,615
Federal Grant as Percent			
of Eligible Project Cost	67%	64%	72%

1.9.1.1 Federal Loan - The amount of feasible federal loan was calculated on the basis of the FmHA terms (5 percent interest, 40 year repayment, annual reserve payment 10 percent of debt service cost). The operation and maintenance costs are subtracted from revenue to determine the amount remaining for debt service and reserve. That figure determines the amount borrowed at the stated loan terms.

1.9.1.2 Non-Federal Funds - Non-federal funds obtained from hook-up fees (\$0.6 to \$1.2 million) and a grant from the Oahe Conservancy Sub-District of \$3 million have been included in the estimated project funding.

1.9.1.3 Federal Grant - The remainder of the project cost would be funded by a federal grant. Grant and loan amounts shown in this report are included for the purposes of evaluating preliminary project feasibility within FmHA statutory requirements. These amounts can also serve as the basis of Congressional authorization and appropriations. The final determination of loan and grant amounts would, of course, be made by FmHA in accordance with their instructions.

1.9.2 Effect of Softening

It is not known whether FmHA will consider softening cost as grant or loan eligible cost. Therefore, it has been assumed that water rates would be increased \$0.04 per 1000 gallons to cover the increased operation and maintenance costs associated with softening. Likewise, hook-up fees would be increased \$75 to \$125 per meter (depending on the "Plan") to cover increased initial cost. Federal funding for this project is not affected by the inclusion of softening when using the above methods.

1.10 COMPARISON OF ALTERNATE PLANS

1.10.1 Plan No. 2 Compared to Plan No. 1

The peaking capacity for the 27 Class A towns (52 of total WEB population served) was deleted in Plan No. 2. These towns would find it necessary to maintain their existing sources to meet peak daily needs primarily in the summer. During such peak periods water quality would be reduced in proportion to the amount of water needed from existing sources. Available data indicates that 90 percent of the estimated annual water need of the Class A towns would be supplied by the WEB system under Plan No. 2. That data also indicates very few days when the mixed water would approach one-half well water. Even then the mixed water quality is considerably better than the existing well water.

The financial feasibility of Plan No. 2 is considerably better than Plan No. 1. Table 1.2 shows the required project funding for Plan No. 2 is about \$8 million less than for Plan No. 1. Under the revenue assumptions made, about \$7 million of this would be federal grant.

Plan No. 2 is judged superior to Plan No. 1.

1.10.2 Plan No. 3 Compared to Plan No. 2

Both plans are designed to supply the same quantity of water to the town users. The difference between plans is the supply and transmission capacity for the

farm and open country users is reduced 25 percent. If the livestock water use will actually be as listed on the good intention fee forms, then Plan No. 2 should be built. However, FmHA officials will most likely require further evidence that reported farm livestock use will actually be as high as indicated. If actual livestock use is reduced to an amount comparable with that on existing rural water systems, then Plan No. 3 is appropriate.

The choice between Plans No. 3 or 2 is not serious at this time since Plan No. 2 is more financially feasible than Plan No. 3 if the high livestock use materializes. While requiring about \$3-1/2 million more total funding, Plan No. 2 would require about \$3 million less grant funds. However, until the higher livestock water use estimate is confirmed, it appears prudent to base requests for federal funding assistance on Plan No. 3. It would be less difficult to modify financing based on Plan No. 3 provided the higher livestock water usage requests are valid than modify financing based on Plan No. 2 if lower usage is valid.

Plans No. 2 and 3 are both judged as being both technically and financially feasible for funding under FmHA criteria. The choice between Plans No. 2 or 3 will ultimately depend upon the quantity of firm requests for livestock water.

1.11 PROPOSED MULTIPLE CAPACITY UNIT CONCEPT

In the WEB system, water has to be transmitted over long distances. Therefore, it is imperative that the water use pattern be defined as accurately as possible so that only the capacity needed is provided in the final design.

To accurately define the farm and open country residences water use, two suggestions are offered. First, an improved water use estimating form be used when good intention fees are collected. It will allow determination of the proper number of design capacity units (DCU's) for each hook-up or tap. A DCU is defined as 360 GPM of peak water use or 1/4 gpm of transmission line and water source capacity. Second, the hook-up fee and minimum monthly bill be proportional to the number of DCU's required. A single rate schedule would be used for all farm and open country residence demand hook-ups. The minimum billing would be determined by the number of DCU's. Users who sign up for higher water demands (more DCU's) will have larger minimum monthly billings.

1.12 PROJECT DETERMINATIONS

Plan No. 3 appears to be the alternate system most appropriate for development in the WEB service area. This plan is both technically and financially feasible under FmHA guidelines for rural water systems. The water delivery system delineated is designed to maximize the advantages of terrain without the constraints of political boundaries. Treated Missouri River water was determined to be the most economical source of good quality water. Local groundwater aquifers were considered in this evaluation. Statistics covering recommended Plan No. 3 are exhibited in Table 1.3.

WEB Water Development Association, Inc.

TABLE 1.3

RURAL WATER DEVELOPMENT PROJECT PLAN NO. 1
SUMMARY OF STATISTICS

User	Service Area - 6406 Sq. Miles 1/			Water Use		Revenue	
	Total Potential Meters	Paid Wood Meters	Intention Fees Population Percent	Peak MGD	Average MGD MGY Gal./Unit/Time 3/	\$1000/Yr. \$/1000 Gal. \$/Unit/Month 4/	
Farm & Open Country	4056	2925	12.373	3.14	1.50 5482/ 15,6002/	1.375	2.51
Class A Towns	30	16,291	84	2.04	1.84 670 119	3.62	3.72
Class C Towns	7	698	100	0.22	0.09 33 101	40	1.21
Class D Towns	17	1,066	100	0.27	0.12 42 106	63	4.06
St. Line Coop. (MO)	-	1-185	740	0.08	0.03 12 5,400	12	1.50
TOTAL	35,432	30,526	841/	5.75	3.58 1305	2,760	5.41

Project System Facilities

1. Lake Oake Intake & Pump Station - 4,000 GPM
2. Raw Water Transmission Pipeline - 3.8 miles
3. Water Treatment Plant & Pump Station - 5.75 MGD
4. Main Storage Reservoir - 6 MG MGD
5. Main Transmission Pipeline - 125 miles
6. Secondary Transmission Pipeline - 307 miles
7. Secondary Storage Reservoirs (5) and Pump Station (16) Reservoirs - 3170 miles @ 5 to 1-1/2 inch dia.
8. Distribution Pipelines - Pressure Reducing Valves, Control Telemetry, Etc.

Development Cost 5/

1. Project Construction	\$58,884,000
2. Other Incidentals	9,542,000
3. Funding Expenses	1,359,000
4. TOTAL	\$69,785,000

Administrative, Operation and Maintenance Cost 5/

1. Annual @ 1370 MGY Water Production - \$1,071,000.
2. Average Pumping Power - \$0.18 per 1000 gallons.
3. Average Production & Transmission - \$0.61 per 1000 gallons.
4. Average Administration & Distribution - \$79 per meter per year.

Estimated Financing Plan 6/

1. FIMA Loan	\$16,990,000
2. Non-Federal Funds	3,600,000
3. FIMA Grant	49,210,000
4. TOTAL	\$69,800,000
5. Funding per Equivalent Meter	14,850
6. FIMA Loan per Equivalent Meter	3,615
7. FIMA Grant as Percent of Eligible Project Cost	72%

Notes

- 1/ Exclusive of St. Line Water Cooperative (North Dakota).
- 2/ Includes 20% Livestock Use on Equivalent 516,000 Head Beef Cattle.
- 3/ Towns are Gallons per Capita Per Day. Others are Gallons Per Hook-up Per Month.
- 4/ Towns are Dollars per Capita Per Month. Others are Dollars Per Hook-up Per Month.
- 5/ System Option without Softening, November, 1979 prices. Inflation cost to Time of Completion Not Included.
- 6/ See Report for FIMA Loan and Grant Criteria and Definition of Equivalent Meter.
- 7/ Abbreviations:
MGD - Million Gallons per Day
MGY - Million Gallons per Year
GPM - Gallons Per Minute

June 18, 1980 Settlement Agreement

The agreement proposed to the S.D. Delegation in a letter from Assistant Secretary of Interior, Guy Martin, was accepted by the Delegation on June 18, 1980 provided "time" and "opportunity" for the S.D. Congressional delegation to continue to pursue WEB authorization and funding and to pursue funding for other S.D. water projects in return for Oahe's deauthorization. The agreement gave the State 15 months--until September 30, 1981--to choose between:

- a continued authorization of the dead Oahe project
- or deauthorization of Oahe predicated on authorization and funding for WEB, plus other proposals which might be agreed upon in the interim.

The Delegation was expected to introduce a "clean" deauthorization bill for Oahe(they did) with the understanding that actual passage was not anticipated before September 30, 1981, after consideration of other S.D. water projects. In return for deauthorization the Carter Administration would support:

1. \$1.9 million first-year funding for WEB and full authorization and funding for the entire \$70 million WEB project beyond the first-year appropriation, contingent upon the S.D. Delegation and the Administration reaching a consensus agreement on Oahe deauthorization.
2. Funding and acceleration of funding for other projects pending in the State, based on negotiations with the S.D. Congressional Delegation.
3. Reservation of one(1) million acre feet of Missouri River water to be developed for S.D. use over a 10 year period.
4. Increased planning and studies by the W.P.R.S. to develop S.D. water projects.
5. Working with James Basin cities to examine projects that would solve their water problems.



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

JUN 18 1980

Honorable George McGovern
United States Senate
Washington, D.C. 20510

Dear Senator McGovern:

I am writing in response to your letter of May 12, 1980, and pursuant to the consultations which have occurred between us since that time.

I want to begin by thanking you for the constructive nature of your letter, and the extraordinary effort and care you have given to resolving the difficult questions regarding the future water resource needs of South Dakota. In spite of differences which may exist regarding some specific issues, I am convinced we share a commitment to meeting South Dakota's needs through sound water management and development, and seeing that the Federal role is a major and cooperative one.

The Administration has made clear its view that it cannot support the permanent authorization of the WEB project in the absence of a deauthorization of the Oahe Unit, and I believe the reasons for this are well understood. You have made clear, in return, two central points. First, that if Oahe is to be deauthorized, you must consider and address other water development needs in the state in addition to the WEB project. Second, that additional time is needed to identify and analyze other proposals and to permit adequate public consideration of them.

Our reaction to these points is favorable, and with some variation, we are able to accept the basic premise of your May 12 letter. What we propose is a process which would create the time and opportunity for development of other responses to state needs, yet leave you in a position in mid-1981 similar to that which exists today--a choice between the continued authorization of Oahe (but without an authorization for WEB) or a deauthorization of Oahe, predicated on authorization and funding for WEB plus other proposals which might be agreed upon in the interim.

Specifically, we would not object to the authorization of the WEB project immediately, as well as first-year funding of approximately \$1.9 million if provided within the Administration's overall budget request for the Department. By mutual agreement with you, a provision would be included in the WEB authorization which would establish a "trigger date" of September 30, 1981 (the end of FY 1981), at which time the future of the WEB and Oahe projects would be firmly decided. Should Oahe be deauthorized by this date, WEB automatically would be authorized for completion, including adequate authority for all necessary funds. (A copy of the proposed language to achieve these purposes is enclosed as amendments to H.R. 6320.)

As you suggest, a "clean" deauthorization bill for the Oahe project will be introduced immediately with the joint sponsorship of the delegation (a draft of such legislation is enclosed). We would have no objection to the introduction of such a bill on request. While the Administration favors passage of such a bill, it would be understood that actual passage is not anticipated until mid-1981, after consideration of other South Dakota water needs. Accordingly, the "clean" bill for Oahe deauthorization would be agreed to be introduced again at the beginning of the next Congress.

During the period between now and mid-1981, when a definitive choice on Oahe deauthorization will be required, a concerted and cooperative effort will be made to better assess South Dakota water resource needs, and to develop agreement on other possibilities for development in addition to the WEB pipeline. We realize that, within the state and even within the delegation, views may differ on various alternatives and priorities, and the Administration has strong views as well. We should use the next 12 to 14 months as a period of working together toward agreement on issues important to the water resource needs of South Dakota and the appropriate contribution of the Federal Government to those needs.

We would approach this effort with great but realistic expectations, and expect all others to do the same. A common initial understanding of the conditions which will determine ultimate agreement will vastly improve our capability to work together. Obviously, there must be a mutual understanding that the package put together in the coming months will require Administration agreement. From the Administration's viewpoint, you should understand that support for any additional future projects or programs will be based on established planning and evaluation procedures, consistency with existing Federal programs, standards set forth in the President's water policy message of June 6, 1978, and consistency with existing budgetary constraints. Such standards are indeed more demanding, in some cases, than those being applied to the WEB proposal itself.

It should also be understood that, the prior decision to authorize and fund the Oahe unit, or any speculative evaluation of that authorization, cannot serve as a measure of what might be agreed upon in coming months. While no reasonable alternative can be ruled out at the beginning of this process, it is equally important to understand that agreement is unlikely if it is predicated on unresolvable budgetary, legal or political bases. We have previously indicated our feeling that the formulation advanced by the South Dakota legislature cannot be the basis of agreement, and although you may initially wish to use it for discussion, we believe it is important for our views to be known at the outset.

The greatest opportunity for success rests in an effort to focus on water resource needs and sound planning to address them, rather than on settlement of legal or political differences. We are willing to take a number of steps to facilitate this effort, and ensure that it is as constructive as possible. For instance, we will support a decade-long reservation of Missouri River

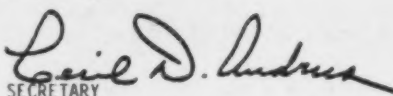
water for the state, as proposed by Senator McGovern, in an amount of water equal to that anticipated for the Oahe unit. In addition, we will take several specific steps related to the role of the Water and Power Resources Service in South Dakota. We will retain adequate staff in the Huron office to assist in this effort, and will review all presently authorized planning in South Dakota, and where possible, accelerate work on individual projects.

Most importantly, we want to contribute to the establishment of a new atmosphere of cooperation among state, Federal and local interests to address common problems. We will gladly enter into such an effort at the field and policy levels with the possibility of identifying new appraisal and feasibility level studies which can be supported for authorization by all the parties concerned.

Overall, we believe this approach meets the basic objectives set out in your May 12 letter, and does so in the manner most likely to yield subsequent agreement based on cooperative efforts over the coming months. We would appreciate an early response from the delegation, as time is drawing short to address the various legislative matters which are essential.

The Office of Management and Budget advises that there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely,


SECRETARY

Enclosure

cc:

Honorable Larry Fressler

Honorable James Abdnor

Honorable Thomas Daschle

United States Senate

WASHINGTON, D.C. 20510

June 18, 1980

The Honorable Cecil D. Andrus
Secretary
Department of the Interior
Interior Building
Washington, D.C. 20240

Dear Mr. Secretary:

Thank you for your letter of June 18, 1980 addressing the issue of Oahe deauthorization, WEB project authorization, and future water resource development in South Dakota. We are most appreciative of the Department's efforts to resolve these difficult issues and of your willingness to seek an effective resolution of them.

We are pleased to inform you that your letter represents a satisfactory response to our proposal of May 12, 1980. Under the joint terms of our letter and yours, we are prepared to advance the WEB project authorization, at the first available opportunity with the expectation of a supportive Administration position. The authorization will include the specific "trigger date" of September 30, 1981, and the Oahe deauthorization contingencies contained in your letter. We are also prepared to jointly introduce the "clean" Oahe deauthorization bill "by request" immediately, with the understanding that its passage will not be pursued until just prior to the end of fiscal year 1981 (September 30, 1981). The clean bill will again be jointly introduced at the beginning of the 97th Congress.

During the interim, the WEB project may move forward and we can cooperatively address the additional water resource needs of South Dakota. As you understand, we will consider all alternatives enjoying local support and will rely on the State and other interests to assist us in this regard. Each of us reserves the right to advocate a variety of ideas and proposals during this period as we seek State consensus, and ultimately agreement with the Administration.

We appreciate your offers of assistance from the Water and Power Resources Service and the Department, and we will seek to foster a cooperative effort to get work underway at the State level. We also

The Honorable Cecil D. Andrus

June 18, 1980

Page 2

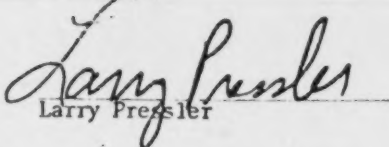
understand the perspective from which the Administration must and will approach this work with regard to established planning and evaluation procedures, water policy, budgetary considerations, and assumptions regarding the Oahe authorization. Our intention is to deal realistically with these considerations with the knowledge that our best opportunity for resolving differences rests in agreement.

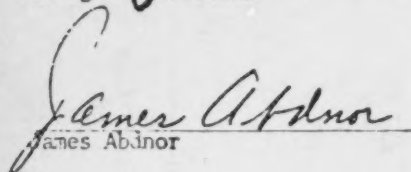
If we are unable to agree prior to September 30, 1981, we retain the option we now have of maintaining the Initial Stage, Oahe Unit authorization, but, under the terms of our agreement, the WEB authorization and opportunity for continued funding will be lost.

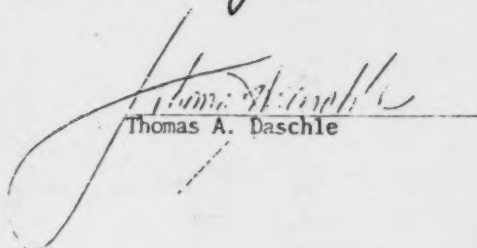
Thank you again for your efforts in helping frame this approach.

Sincerely,


George S. McGovern


Larry Pressler


James Abdnor


Thomas A. Daschle

WEB: Hope for the future or a futile wait?

By CINDY EIKAMP
Aberdeen News Staff Writer

FOR YEARS Vic Simon has been hauling water from Hoven to his farm five miles away.

The water in his 1,400-foot artesian well isn't safe for his own consumption. The water isn't even safe for poultry, but passes standards for other livestock.

Ever since and then—he's not sure how often—Simon drives to Hoven, fills the tank on his truck with city water and drives back home to empty the water into a 8,000-gallon cistern.

For years Simon's well provided all the water the family and livestock needed. Several years ago another vein of water at about the 1,400-foot level broke into the well and contaminated the water. That's when he started making the trips to Hoven.

Simon could dig a new well, but that would cost about \$20,000 and there's no guarantee the water would be drinkable.

Simon hasn't made a decision on drilling. Instead he is waiting and watching the progress of a water plan that would deliver Missouri River water to his farm.

That plan is WEB, which stands for Walworth, Edmunds and Brown, the three original counties that

joined to study piping Missouri River water east. WEB has grown into a proposal that covers 10 counties and could deliver treated Missouri River water to 30,000 persons.

Simon has been watching WEB for several years.

"Five or six years ago I heard about WEB and waited to see if it would ever amount to anything. Three or four years ago I went to a WEB meeting in Selby. I've been working with it ever since."

Simon sees WEB as the answer to his water problems.

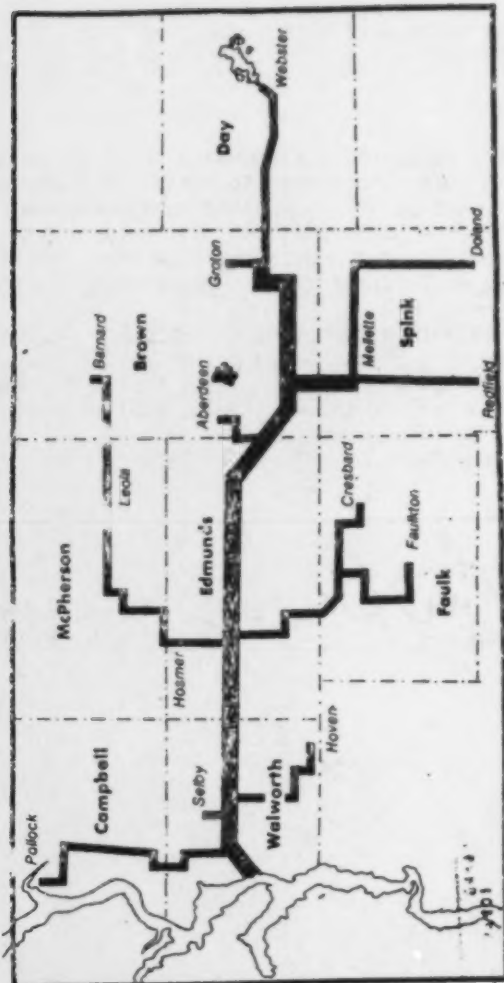
So does Floyd Reidt. Reidt runs a dairy farm near Onaka and is no stranger to hauling water.

Two years ago Reidt had the milk truck haul water for his cattle. He said he was lucky he was the truck's first stop or it wouldn't have worked.

Drought lowered his well pressure. There are still water troubles on the Reidt farm. He said after the cows are watered in the morning "you don't go into the house to wash clothes or take a shower," right away because the water pressure is too low.

At 47, Reidt said he doesn't think he'll ever see WEB water on his farm while he's there. He admits he hopes politicians will stop disagree-

(See WEB, Page 1)



The proposed WEB domestic water pipeline

WEB: 'Just get me some water'

(Continued from Page 1)
ing and "just get me some water; we'll agree on something."

Simon and Heldt are just two examples of 30,000 persons waiting for WEB water. Already 2,700 farm families (representing 12,000 persons) have signed up for the water pipeline and 11 communities with a total population of about 18,000 are also waiting for WEB.

What the WEB pipeline would do is pipe treated Missouri River water from south of Moberly to the west as far as Day County with lines "arching north and south to serve users."

The \$70 million project would include about 3,000 miles of buried pipe ranging in diameter from 27 inches to 48 inches and a half.

It would be capable of pumping 6 million gallons of treated water each day to users. Storage reservoirs along the way would store water for peak demand periods.

WEB supporters had hoped to have the pipeline in operation by 1964 but now WEB's whole future is uncertain.

WEB's future has been rocky wherever the federal government has been involved. The road ahead

could get rockier. Its authorization is in jeopardy.

WEB was the only federal water project authorized by Congress last year, but that authorization, which hinged on the Oahe Irrigation project's deauthorization, expired Sept. 30 if the Oahe project is still on the books. And there's disagreement on Oahe's deauthorization.

Gov. Bill Jentzen is opposed to de-authoring the Oahe project.

"Let's change it (the authorization) any way our people want but let's not throw out the baby with the bath water," he says. "I don't think our two representatives and our two senators can get another water project out of Congress."

The Missouri water pipeline's future is linked to the Oahe Irrigation project's death and that has worried a lot of people.

Anders Christensen, WEB spokesman, says Oahe-WEB will always be linked by congressional committees that take out federal funds.

He maintains congressional committees will only approve WEB as part of a settlement for Oahe. He said South Dakota doesn't have enough political clout in Washing-

ton, D.C. to get WEB authorized without that authorization being related to Oahe's demise.

"We need a lever and that lever is Oahe," he said.

Hearings on WEB's reauthorization and Oahe's deauthorization are set for the first week Congress gets back from its Labor Day recess, but final action on that bill is unlikely before the Sept. 30 deadline.

So WEB will probably lose its authorization if the current authorization isn't extended as Morris Kurle, WEB chairman, has proposed.

But the \$44 question is whether that authorization—if lost—will be reauthorized at a later date.

It won't be the first time WEB has lost something it would have.

WEB lost \$10,000 in federal funds earmarked for studies of the project. Although the federal government has provided the money for South Dakota's project, it couldn't find a way through the maze of red tape to get the money down to the WEB people.

Just this year WEB lost \$1.9 million the federal government said

it could have to begin construction. A congressional committee delayed the WEB start-up money until Oct. 1. But that money won't do WEB any good Oct. 1 if it loses its authorization.

WEB supporters had hoped, with federal authorization and funding in place, to start work this summer on the intake structure and expected the total project to be done by mid-1964.

Now the 1964 target date appears to be out of reach. Christensen said it is physically impossible to build the pipeline and have it in operation by 1964 because of the delays, even if WEB's authorization was certain.

Ch. Stensen said WEB is like a "fragile egg. You can only handle it so long" before it breaks.

Some WEB supporters are losing hope. Heldt says he's sick of politicians fighting about the Oahe authorization and thereby WEB's future.

"For once I would like to go to the faucet and get a good glass of water," Heldt says he doesn't see "anything happening unless WEB becomes a reality."

Senator MURKOWSKI. Thank you, Mr. Eldredge.
Mr. Yoder, you may proceed.

STATEMENT OF BOB YODER, TREASURER, WEB WATER DEVELOPMENT ASSOCIATION

Mr. YODER. Senators, my name is Robert Yoder, a dairy farmer from the Aberdeen, S. Dak. area, which is located in Brown County. I am the chairman of the Brown County WEB steering committee, and I am treasurer of the WEB board. I also serve on that board as a director.

On behalf of the WEB board, the following recommendations have been made on Senate bill 1553. We of the WEB board have some concerns on Senate bill 1553. WEB has not been satisfied with the terms and conditions of its present authorization—section 9 of Public Law 96-355—that links full authorization and funding of WEB with deauthorization of Oahe.

We are constantly operating under that law. WEB's authorization has a history of linkage with Oahe that has been a requirement of several committees of Congress, the Office of Management and Budget, and the House-Senate Conference Committee considering recisions.

Senate bill 1553 would remove the WEB-Oahe linkage which prompts WEB's concern that the bill may not be in conformance with the wishes of Congress.

The WEB authorization will lapse September 30, 1981, if proper legislation is not implemented. WEB is therefore concerned about the above and thus recommends new language be submitted to the present Senate bill 1553. We are recommending that section (a) be amended to read as follows:

(a) The WEB Rural Water Development Project, authorized by Section 9 of Public Law 96-355 will remain authorized and not terminate on September 30, 1981.

The next aspect that the WEB project has concern about is the WEB project modeled and developed itself after similar projects that have been successfully developed by the Farmers Home Administration sewer and water programs.

The project has been engineered and developed to the point of actual construction utilizing the Farmers Home Administration's rules and guidelines. WEB is concerned about the Bureau of Reclamation involvement in the WEB project's development since the Bureau of Reclamation does not have the experience or the programs to administer or develop a project like WEB.

In the past, the Bureau of Reclamation has paid little interest in the development of the WEB project. However, WEB has enjoyed a good working relationship with the Farmers Home Administration, who remains in the best position to work with our private engineers, to provide effective oversight of the WEB project's development.

WEB would therefore recommend that section (b) of the bill be changed to read as follows:

(b) The Secretary of Interior (herein referred to as the "Secretary") is directed to proceed with the development of the WEB Rural Water Development Project by making available for immediate obligation 1.9 million and 33

million for fiscal year 1982, except that such funds shall be made available directly to the WEB Association and shall not be transferred to the Department of Agriculture; however, the Secretary shall enter into cooperative memoranda of understanding with the Secretary of Agriculture providing for the continued Farmers Home Administration oversight of the technical development of the WEB project.

It is WEB's concerns on these two aspects that leads us to make these recommended changes. We, the Board, are willing to work with the Senate to bring about a workable bill on WEB's concerns.

With this, I would like to return the floor to Marland.

Senator MURKOWSKI. Thank you, Mr. Yoder.

Mr. Eldredge, who is next?

Mr. ELDREDGE. Yes, Mr. Oscar Huber, I believe.

Senator MURKOWSKI. Mr. Huber?

STATEMENT OF OSCAR HUBER, SUBSCRIBER, WEB WATER DEVELOPMENT ASSOCIATION

Mr. HUBER. Mr. Chairman and members of the committee, I, Oscar Huber, am a subscriber to the WEB domestic water system and a resident of the Oahe Conservancy Subdistrict and have paid the special Oahe tax ever since it was levied. I also had the distinct honor of serving in the State legislature for six terms with Senator Abdnor, so I am certainly pleased that he is on this committee with you, Senator Murkowski.

All of the 18 farmers in my township signed up for the WEB domestic water project when good intention fees were collected. To give you an idea why interest is so great for the WEB project take a look at my water dilemma, and I am probably one of the more fortunate. In other words, I think my illustration here would represent quite a few of the WEB members.

Senator MURKOWSKI. I am not sure what the record does with your water, but we will certainly recognize it as noted in the record.

Mr. Brown, I assume that's your responsibility. I thought he had some white wine up here at first.

Mr. HUBER. Mr. Chairman, that is a good example of my best water, and that is what we drink and the livestock drink. But it has bacteria in it, and it's not safe according to the State test. And I think you have the State test up there—I sent up there.

And that's the water, and that's the only water we have there except salty water that the cattle get sick from.

So anyway, I have there two sheets of pictures, and there are seven pictures there for illustration purposes. On picture 1, the three white boxes are wells, and that in the foreground is the cover for my reservoir.

The reservoir has a capacity of about 6,000 gallons, and it was built in 1977 to replace a 50-year-old reservoir, so we have had reservoirs there a long time.

The wells don't have enough capacity for our peak needs. Now, from left to right on that same first picture, the first well is 180 feet deep and went dry 2 years ago after 8 years of use. It filled up with quicksand.

And my well No. 2 is a standby well. That's 300 feet deep. That's in shale, so livestock water consumption drops when we use it, and calves get sick.

Well No. 3 is 186 feet deep and was drilled in 1977. The casings were set in concrete 12 feet down, so it should be safe.

But this is our main water supply, and it doesn't pass the State test.

Now, picture 2 shows one of our abandoned wells that has water. But after several years, we have discovered that cows aborted if forced to drink the water. The water is salty and bitter.

Picture 3 shows the chlorinator. It would be accurate and dependable if the iron oxide and other minerals wouldn't clog the injection valve. And that happens about every month. It's a gradual process. If I don't change it, then it's plugged up about once a month.

So we boil all our drinking water.

Picture 4 from left to right shows a sand filter which rusted through in 4 years. And that is suppose to remove sediment before it gets to (2), the charcoal filter, and the charcoal filter removes the chlorine odor and the slough odor from the water but clogs up with mineral deposits. This has to be changed whenever the pressure drops, and that's about every 4 months. They cost \$20 to refill.

Part 3 is the water conditioner, picture 3, and without the wells, the reservoir and the conditioning system cost over \$10,000 in 1977. So you can see it's very expensive to provide water for our farm.

So we feel the only solution is the WEB domestic water project, not only for us but everyone that is a subscriber to WEB.

Now, there is a part 2 to my water dilemma, and that's illustrated on the second page of pictures. And that, I believe, is a typical example.

Picture 5 shows the dugout that we use about 2 months in the spring and a month in the fall when our cattle are at home. And this being a primary water supply, it needs all of the drainage that it can get. We would have to quit the cattle business without it.

The water supply for the dugout is part of the wildlife mitigation of the Oahe Irrigation District.

Pictures 6 and 7 show the land and ditch to be mitigated. The land is all cultivated and the best part of the quarter that the farmstead is on. My grandfather homesteaded this in 1896, and now my mother and I own it jointly. I hope to pass it on to my children.

We also own the mineral rights on this quarter, and the mineral rights are hard to get nowadays. Most of the mineral rights go to the State.

Now, at a hearing at Ipswich, our county seat, a representative from Fish and Wildlife explained that the ditch would be closed to form a lake behind it. It was also made clear that if this water and land was needed, that their right of eminent domain would be exercised.

To my knowledge, no effort has ever been made to remove any mitigation requirements from the Oahe irrigation authorization, and all proposals to modify it never suggest it. It appears that the right of eminent domain will always be a part of the Oahe irrigation project.

The Carter administration had made human rights an issue, and now the Reagan administration's philosophy is to give this country back to

the people, so why take thousands of acres like mine, use our tax money to pay for it and give title to the Government?

These are my feelings about wildlife mitigation and the Oahe irrigation project. They are not the feeling of the WEB Board.

Absolutely no consideration was given to the problems of landowners when this land was designated. The economic feasibility of many farms and ranches will become questionable. Mine is a farm that we have to have cattle, and if we can't have them, then it's not feasible.

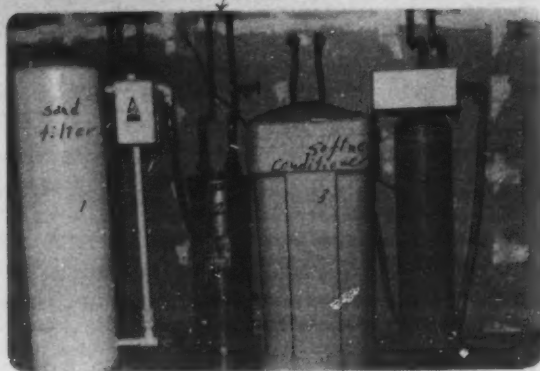
The Government is claiming that they must replace wildlife habitat that they never owned in the first place. A good way to increase wildlife habitat and wildlife population is to promote and maintain a good working relationship with the landowners.

Now, in order to have water development in our State, we must eliminate the need for wildlife mitigation and not use the right of eminent domain so freely.

Whenever someone speaks in favor of the Oahe irrigation project, they are saying to me "We want your water supply, and we want to put you out of business." So we need both WEB, and I need my dugout.

I wish to thank the committee for taking the time to listen to me.

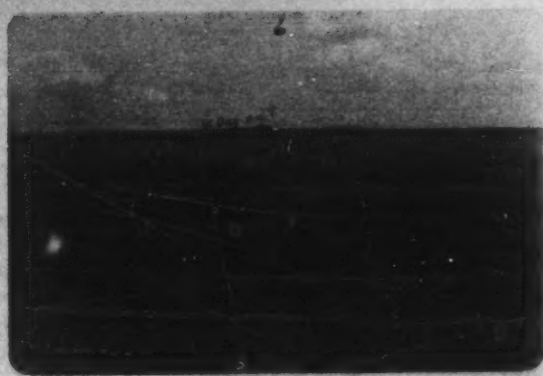
[The attachments to Mr. Huber's statement follow:]



Oscar Huber

5
Dagout

Page 2



Oscar Huber

S-5.05 W/95M/1-77

SOUTH DAKOTA STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION
WATER TESTING DATA AND REPORT FORM

RESULTS OF TESTING (DO NOT WRITE IN THIS SPACE)																									
☐ Bacteriologically safe at the time of sampling. ☒ Bacteriologically unsafe for drinking or washing uncooked foods. ☐ Bacteriologically unsafe for swimming. ☐ Send recheck samples. See #7 on reverse side for recheck sampling instructions.	☒ Nitrate content not of concern. ☐ High Nitrate. Do not use for infants up to 6 months age.																								
FILL IN NAME AND ADDRESS OF PERSON TO RECEIVE REPORT																									
Name <u>Robert Huber</u>																									
Street or RFD <u>411 1st St</u>																									
City <u>Bowdle, SD</u> Zip Code <u>57426</u>																									
Phone number: <u>285-6347</u>																									
PLEASE PRINT CLEARLY (Sampling instructions on reverse side)																									
WATER SUPPLY ONLY	SWIMMING POOL OR BEACH ONLY																								
Name of water supply: <u>Well # 7</u>	City: _____																								
Sample Collector: <u>OSCU 21401</u>	Name-Pool or Beach: _____																								
Date collected: <u>11/29/89</u> Time: <u>11:00 AM</u>	Sample collector: _____																								
Type of Supply: Public ☒ Private ☐ Other (Explain below) _____	Date: _____																								
Source: Lake Stream Cistern <u>Well</u> Spring Gallery _____	Pt. of Collection: _____																								
Type of Well: Drilled Dug Driven Bored _____	Time of Collection: _____																								
Depth of Well: <u>176</u> Diameter of Well: <u>4</u>	No. Swimmers present: _____																								
Location of Sampling Tap: <u>SW 9-12-1</u>	Chlorine residual: _____ ppm.																								
Purpose of Sample (specify): Routine _____	pH: _____																								
Recheck of Unsafe Sample _____ Other (Explain below) _____	_____																								
Remarks: <u>New Well - 176' deep - 4" dia.</u>																									
Nitrate Nitrogen: _____ ppm. Hardness: <u>250</u> ppm. or <u>14.5</u> dgs. Iron: _____ ppm.																									
Fluoride: _____ ppm. Manganese: _____ ppm.																									
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>net</th> <th>Number</th> <th colspan="2">LFT</th> <th colspan="2">RGS</th> <th>Fox</th> <th>MPN</th> </tr> <tr> <th>Portion</th> <th>of Tubes</th> <th>20 tubes</th> <th>40 tubes</th> <th>20 tubes</th> <th>40 tubes</th> <th>Tubes</th> <th></th> </tr> </thead> <tbody> <tr> <td>10</td> <td>8</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>76</td> </tr> </tbody> </table>	net	Number	LFT		RGS		Fox	MPN	Portion	of Tubes	20 tubes	40 tubes	20 tubes	40 tubes	Tubes		10	8	5	5	5	5	5	76	Membrane Filter Bacteria <u>Total Coliform</u> Count _____ per 100 ml. Bacteria _____ Count _____ per ml.
net	Number	LFT		RGS		Fox	MPN																		
Portion	of Tubes	20 tubes	40 tubes	20 tubes	40 tubes	Tubes																			
10	8	5	5	5	5	5	76																		
Lab No. <u>1324</u>	Date Received <u>11-4</u> Date Reported <u>11-20-89</u>																								

This bacteriological water sample has been tested and found to be unsafe for human consumption. Coliform bacteria are a group of several related kinds or specie of microscopic organisms that live mainly in the soil or in the intestinal tract of warm-blooded animals. They rarely cause a disease themselves, but their presence in water indicates that the water has been contaminated by surface runoff or fecal material and that disease-causing or pathogenic bacteria may be present. It is therefore recommended that an EMERGENCY DISINFECTION PROCEDURE BE IMPLEMENTED IMMEDIATELY.

The well itself should be disinfected as per the enclosed disinfection sheet. If you have further questions, please call the Department of Water & Natural Resources, Office of Water Hygiene at 773-3754 or our Toll Free Number: 1-800-592-1865



Department of Water & Natural Resources

Joe Foss Building
Pierre, South Dakota 57501

November 30, 1979

Oscar E. Huber
Rt. 1 Box 78
Bowdle, South Dakota 57428

*State Test
for
Well now used
for household
and livestock*

Our analysis of the sample of water from your private well shows the water to be unsafe for drinking purposes because organisms of the coliform group were found to be present. These organisms are characteristic of sewage, sewage-like materials and surface drainage. Until your well is tested and found to be safe, this water should be boiled before being used for drinking purposes.

Shallow and deep wells are most often contaminated by means of surface water which enters around the pump, through the well cover, or through the upper few feet of the well casing.

Also, wells are sometimes terminated in pits for the purposes of preventing freezing during cold weather. These pits will often collect surface waters which may enter the well by overflowing into the casing or by seeping down the outside of the casing and then into the water bearing formation. It is possible for water to seep down the outside of the casing a considerable distance without the bacteria being filtered out, since the space between the drill hole and the casing often has not been completely filled in. From a sanitary viewpoint, well pits are not desirable.

Very truly yours,

Mark E. Steichen

Mark E. Steichen, Administrator
Office of Water Hygiene

attachment

South Dakota State Department of Water & Natural Resources
Office of Water Hygiene
Joe Foss Building
Pierre, South Dakota 57501

RECOMMENDED PROCEDURE FOR CHLORINE DISINFECTION OF WATER WELLS
(REFERENCE - AWWA A100-66, Standard for Deep Wells)

Introduction

A water well should be thoroughly cleaned and then disinfected with a strong chlorine solution after:

1. ORIGINAL CONSTRUCTION
2. ANY REPAIR OR MAINTENANCE
3. FLOODING
4. A PERIOD OF NON-USE
5. TWO OR MORE "UNSAFE" WATER BACTERIOLOGICAL SAMPLES ARE TRACED TO THE WELL

Adequate chlorine disinfection requires a certain chlorine dosage for a minimum contact time - 100 parts per million for 2 hours or 50 parts per million for 8 hours or 25 parts per million for 24 hours.

Chlorine for disinfection of water wells can be either 5.25% sodium hypochlorite solution or 70% calcium hypochlorite powder. A 5.25% sodium hypochlorite solution is common house-hold chlorine bleach such as "Hilex", "Clorox" or "Purax" available at grocery stores and supermarkets. The 70% calcium hypochlorite powder is available from chemical supply houses as "HTH", "Perchloron" or "Pittchlor".

Recommended Procedure

1. Determine the chlorine dosage for the desired contact time from the following table.

Inside Diameter of Well Casing	AMOUNT OF CHLORINE NECESSARY PER 10 FEET OF WATER IN WELL					
	5.25% Sodium Hypochlorite (Bleach)			70% Calcium Hypochlorite		
	100 ppm* for 2 hrs	50 ppm* for 8 hrs	25 ppm* for 24 hrs	100 ppm* for 2 hrs	50 ppm* for 8 hrs	25 ppm* for 24 hrs
1½ inches	1/8 fl. oz.	- - - -	- - - -	- - - -	- - - -	- - - -
2 inches	1/2 fl. oz.	1/4 fl. oz.	1/8 fl. oz.	- - - -	- - - -	- - - -
3 inches	1 fl. oz.	1/2 fl. oz.	1/4 fl. oz.	- - - -	- - - -	- - - -
4 inches	1½ fl. oz.	3/4 fl. oz.	3/8 fl. oz.	- - - -	- - - -	- - - -
6 inches	4 fl. oz.	2 fl. oz.	1 fl. oz.	1/4 oz.	1/8 oz.	1/16 oz.
8 inches	7 fl. oz.	3½ fl. oz.	1 3/4 fl. oz.	1/2 oz.	1/4 oz.	1/8 oz.
10 inches	10 fl. oz.	5 fl. oz.	2½ fl. oz.	3/4 oz.	3/8 oz.	3/16 oz.
12 inches	2 cups	1 cup	1/2 cup	1 oz.	1/2 oz.	1/4 oz.
18 inches	4½ cups	2½ cups	1 1/8 cups	2½ oz.	1½ oz.	5/8 oz.
24 inches	7½ cups	3 3/4 cups	1 7/8 cups	4½ oz.	2½ oz.	1 1/8 oz.
36 inches	17½ cups	8 3/4 cups	4 3/8 cups	10 oz.	5 oz.	2½ oz.

*ppm = parts per million
8 fluid ounces = 1 cup

1 heaping tablespoonful of 70%
chlorine powder = 1/2 oz.

2. Prepare a chlorine solution, lift well pump and pour the chlorine solution into the well.
3. Lower the pump and operate pump until a chlorine odor is noticed at the discharge point.
4. Leave the chlorine and water solution in the well for the recommended contact time. Do not use the water.
5. At the end of the contact time, pump the well to waste until the chlorine odor cannot be detected.
6. Pump the well for a considerable period of time and collect a water bacteriological sample.



Department of Water & Natural Resources

Joe Foss Building
Pierre, South Dakota 57501

November 30, 1979

Oscar E. Huber
Rt 1 Box 78
Bowdle, South Dakota 57428

The State Department of Water and Natural Resources is pleased to send you this partial chemical test report on your recently submitted sample(s) from your water source.

HARDNESS -	250	ppm or	14.6	gpg
TOTAL DISSOLVED SOLIDS CONTENT -		ppm		
CONDUCTIVITY -		Micromhos	CHLORIDES -	ppm
SODIUM as Na	-	ppm	NITRATE as N	- ppm
IRON as Fe	-	ppm	FLUORIDE as F	- ppm
MANGANESE as Mn	-	ppm	SULFATE as SO ₄	- ppm

ppm - parts per million
gpg - grains per gallon (1 gpg = 17 ppm)

Our primary service to private water supply users is bacteriological purity testing; special purity sample bottles are available upon request. Partial chemical tests are also offered on request because of the many highly-mineralized waters in South Dakota; some chemicals in water are of human health concern (sodium, nitrate, fluoride) while other chemicals are nuisances which may seem to be a health matter to the person affected. If you are experiencing health problems which you feel may be related to your water supply, it is suggested that you see your family physician and provide him or her with the findings of this report.

We are not familiar with your private water supply; thus, the chemical tests carried out were based either on the problems outlined in your request or by our experience. The chemicals listed above and their significance are briefly discussed on the back to this sheet.

Very truly yours,

Mark E. Steichen

Mark E. Steichen, Administrator
Office of Water Hygiene

over

Equal Opportunity Employer

HARDNESS Hardness is the soap-consuming capacity of water; that is, the more soap required to produce a lather, the harder the water. Hard water also causes greasy rings on bathtubs and sinks, chemical deposits in pipes and faucets, greasy films on dishes or on hair after washing and poor laundry results. Hard water problems may be partially overcome for bathing or washing by the use of synthetic detergents or packaged "softening" compounds. The hardness of a water may be removed by a zeolite (exchange resin) water softening unit. Zeolite softened water may be of concern to persons on a low salt diet for medical reasons and should not be used for watering gardens, lawns or plants. Home softeners (zeolite type) do not reduce the total dissolved solids content of water but increase the sodium content of the water, and they do not reduce nitrates, sulfates or fluorides. The hardness of South Dakota waters may be rated as follows:

0 - 3	grains per gallon - soft water
4 - 10	grains per gallon - reasonably soft
11 - 25	grains per gallon - fairly hard, but less than average for S.D.
26 - 50	grains per gallon - average hardness for S.D.
51 - 75	grains per gallon - very hard
Over -	grains per gallon - extremely hard

TOTAL DISSOLVED SOLIDS CONTENT, ALKALINITY, CHLORINE Our complete chemical analysis of city water supplies requires 15 tests. We can closely estimate the various chemicals of interest in a private water sample by only testing for hardness, total dissolved solids content, alkalinity and chloride. By themselves, the latter three tests are of little or no concern.

CONDUCTIVITY This measure of the ability of water to conduct electric current is related to the type and amount of dissolved chemicals in the water. In general, waters having a conductivity of less than 1000 micromhos may have slight hardness as well as taste and odor problems. Dependent upon the particular chemicals dissolved in the water, these problems may become more pronounced with increasing conductivity to the extent that levels greater than 2000 micromhos may make the water objectionable for human use.

SODIUM Sodium may be of health significance to persons on a low-salt diet for medical reasons. This test must be requested by your family doctor. Sodium cannot presently be completely removed by treatment; however, water conditioning equipment is now available which will reduce the sodium content. The sodium content is increased when water is passed through a zeolite softener.

IRON AND MANGANESE Iron and manganese are nuisance chemicals which cause troublesome stains and deposits on light-colored clothes, on plumbing fixtures and in pipes. Iron causes yellow, red or reddish-brown stains and deposits while manganese stains and deposits are gray or black. Iron and manganese can be removed in a zeolite softener equipped with a special resin or by small treatment systems involving aeration, filtration and chlorination. Manganese in excess of 0.05 parts per million (ppm) will more than likely cause problems. Iron problems arise with levels greater than 0.3 ppm. A combination of iron and manganese in excess of 0.3 ppm can also cause discoloration. Iron and manganese may contribute to odor problems.

NITRATE Nitrate in excess of 10 ppm (as nitrogen) is of health significance to infants of six months age or less. High nitrate water should not be used for infant feeding or in formulas. Nitrates cannot be removed or reduced by boiling and cannot be completely removed by any presently-known private water supply treatment device; however, water conditioning equipment is now available which will reduce the nitrate content.

FLUORIDE Fluoride is of dental health concern. The optimum fluoride content for partial control of tooth decay is 0.9 to 1.7 ppm with 1.2 ppm being optimum for South Dakota. Excess fluoride can be reduced in a private water supply using water conditioning equipment which is now available.

SULFATE Water with a sulfate content in excess of 500 to 700 ppm may have a bitter taste and have a laxative effect on persons not adapted to the water. Sulfates may contribute to odor problems. The sulfate content can be reduced in a private water supply using water conditioning equipment which is now available.

Senator MURKOWSKI. Thank you, Mr. Huber. I appreciate your testimony. I might mention that your pictures will be included in the record, although they probably won't come out in color.

Mr. ELDREDGE. Mr. Chairman, I would like to present Mae Zemlicka from Aberdeen.

Senator MURKOWSKI. Yes, Mrs. Zemlicka, I believe I had the pleasure of meeting you at breakfast this morning.

Mrs. ZEMLICKA. That's right.

STATEMENT OF MAE ZEMLICKA, WEB WATER DEVELOPMENT ASSOCIATION, ABERDEEN, S. DAK.

Mrs. ZEMLICKA. Thank you Senator Frank Murkowski and members of the Senate Water and Power Subcommittee as well as Senator Abdnor. This is in consideration of the Senate bill 1553. I will try to limit myself to 5 minutes, and you have my testimony, and I understand you will be—

Senator MURKOWSKI. Your entire testimony will be included in the record, Mrs. Zemlicka.

Mrs. ZEMLICKA. I will very briefly introduce myself. I am Mae Zemlicka, one of the founders and first secretary of the WEB Water Development Association. I served as Aberdeen City Finance Commissioner for 5 years; assisted in organizing, and am a member of the Aberdeen Citizens Water Advisory Board.

During this period, I held offices in the South Dakota Municipal League and am a former vice president of the Elected Women in Municipal Government of the National League of Cities. There is more, but you have that.

In the majority of meetings, hearings, studies, research, and planning, domestic water for South Dakota people has always been labeled our No. 1 priority. I might say to Senator Pressler, I can beat him in the number of water meetings that I have attended. And in most cases, it was volunteer and I paid my own expenses.

The number one priority to us, and this is not just lipservice, we have the WEB project. South Dakotans in that area of our State are sincere and dedicated in making certain that our people and livestock will have a stable supply of good quality domestic water.

The great Missouri flows through the center of South Dakota and could bring safe drinking water to thirsty South Dakotans. The dairy and livestock industries would be improved and it would develop our economy and way of life.

The WEB project has been explained to you, and I have also entered in my testimony.

WEB did its homework. When they decided they needed an adequate supply of safe drinking water from the Missouri, we met and immediately hired private qualified engineers for our first water supply feasibility study, which was completed March 1, 1977.

Surveys were made of the area to be served with the assistance of State and county extension agents. In fact, we brought many of the elected officials and volunteers into this, and we became a grassroots concept.

By January of 1979, the second joint venture of well-qualified engineers undertook further studies requiring the project implementation and construction. And there is information on that in my testimony.

The WEB project was determined that they could provide much needed treated water, piped to 3,000 ranches and 51 small towns in parts of 10 north central counties. The WEB project would require no mitigation acres. It would have buried pipelines along the right-of-way, and no loss of land.

WEB locally raised funds for private engineers, and a future water rights permit has been granted by the State legislature.

Early in the planning state, WEB sought funding and assistance from the Oahe Subdistrict Board. Both past and present Boards supported the project. The Farmers Home Administration gave guidance and assistance on the State and Federal levels.

Since the Bor and the Corps of Engineers could not assist us in the foreseeable future, WEB continued to develop on its own, and our project leaders were encouraged by our congressional delegation in Washington stating to us in 1975-76 that WEB continue its grassroots entity.

Of 17 towns authorized for Oahe unit water in addition to what we have planned, 10 towns could receive water supplies from construction of the WEB pipeline.

The WEB project was designed specifically for domestic water service by private engineers with background and skills in building municipal and rural water systems. The WEB studies were paid for, for the most part, with local funds. The WEB project in contrast to the Oahe irrigation project would cost about \$70 million and would serve drinking water to 30,000 people in 10 counties.

In summary, I am opposed to reauthorization of the WEB project as proposed in Senate bill 1553 if it means No. 1, that the 1980 WEB authorization and the financial plan as authorized is lost; or No. 2, if it means that WEB will fall under the Secretary of the Interior with the Bureau of Reclamation having charge of construction of the project.

The WEB project should be constructed and assisted with the building by the Farmers Home Administration.

I support funding of the WEB project separate and apart from the Oahe unit irrigation project. If there is such a thing as an Oahe settlement of trade, I think domestic water projects like WEB should get top priority throughout this State.

I support release of 1981 WEB funds and funds included in the 1982 Federal Interior budget, with construction being handled and directed by the Farmers Home Administration.

I support the deauthorization of the Oahe unit plan as authorized in 1968. If there is modification, I will be interested.

Thank you for coming to South Dakota. To me it's a beautiful, wonderful State. Wonderful fishing and hunting, and I hope you have plenty of it.

Again, thank you for allowing me to testify.

[The prepared statement of Mrs. Zemlicka follows:]

TESTIMONY OF

MRS. A.D. ZEMPLICKA
1020 South Kline
Aberdeen, South Dakota

Public Hearing On Senate Bill 1553,
WEB Project, Oahe Unit, & Related Matters
September 12, 1981
Pierre, South Dakota

SENATE SUBCOMMITTEE ON WATER AND POWER

SENATOR FRANK MURKOWSKI, CHAIRMAN

September 12, 1981

To: Senator Frank Murkowski and Members of the Senate Water and Power Subcommittee

RE: Consideration of S.D. 1553

I am Mrs. (A.D.) Mae Zemlicka, one of the founders and first Secretary of W.E.B. Water Development Association.

I served as Aberdeen City Finance Commissioner for five years; assisted in organizing and am a member of the Aberdeen Citizens Water Advisory Board. During this period I held offices in the South Dakota Municipal League, and am a former Vice President of elected Women in Municipal Government of the National League of Cities.

I have been a member of the League of Women Voters since 1947, serving as past Local and State President, and am active in the League's research and promotion of safe drinking domestic water since 1956, the Clean Water Act, and the 208 Program.

I also participated for two years in the "CENCOAD Program", a Federal grant water study conducted by an Augustana College Resource team with federal grant funds. I served as a delegate for two years on the "state water goals" study, conducted by CENCOAD.

In the majority of meetings, hearings, studies, research and planning, domestic water for South Dakota people has always been labeled our number one priority.

This is not just lip service. South Dakotans are sincere and dedicated in making certain that our people and livestock will have stable supplies of good quality domestic water. The great Missouri flows through the center of South Dakota and could bring safe drinking water to thirsty South Dakotans. The dairy and livestock industries would be improved and it would develop our economy and way of life.

The WEB Project

The W.E.B. Water Development Association was organized January, 1975, at Aberdeen under the South Dakota State Joint Cooperative Agreement Act of 1966. All meetings are public and minutes are recorded. Citizens and locally elected government officials began to plan transferring adequate Domestic water from the River (Missouri) in a buried pipeline.

The water was to be treated near the source of the intake structure and delivered at a reasonable rate to the municipalities, rural areas, and farms in North Central South Dakota. The main pipeline was to run east from the Missouri, along the right of ways to Webster, with branch lines from Aberdeen to Redfield. A network of secondary lines distributing water to the users was to be planned. W.E.B. did its homework, immediately hired private engineers for a first water supply feasibility study, completed March 1, 1977.

The initial letters of the original counties, Walworth, Edmunds, and Brown gave the W.E.B. Project its name. At present parts of 10 counties are involved.

Surveys were made of the area to be served with the assistance of State and County Extension Agents. The water needs were programmed into the S.D.S.U. computer and served as a basis for the collection of good intention fees. Townships were also involved.

By January of 1979, a second joint venture of well qualified engineers undertook further studies requiring the project implementation construction.

A summary of our 1977 first feasibility report was made providing 2 conclusions and the framework for the 2nd study.

1. The most economical method of providing the W.E.B. Project areas with an adequate water supply equalling or exceeding the Safe Drinking Act (P.L. 93-523) interim quality standards, was the W.E.B. Pipeline concept.
2. Grant participation, on the order of 50% of total project cost, would be required to limit municipal water rate increases to twice the average current rate.

Again, extensive surveys of water facilities and services and use estimates were made.

Four alternate pipeline systems with estimated costs were submitted by the Engineers.

The W.E.B. association incorporated, a new Board elected and an alternate picked.

Hookup fees were collected and a healthy number (84%) signed and paid their fees, \$638,000 was collected. In the W.E.B. area, we often have limited rainfall, we have many farmers hauling water for cattle, wells that dry up or have poor water that is putrid and undrinkable. Violation of safe drinking water standards exists in 34 towns.

The WEB project could provide much needed treated water, piped to 3,000 ranches and 52 small towns in parts of 10 north central counties.

The WEB project would require no mitigation acres, and no loss of land.

WEB locally raised funds for private Engineers. A future water rights permit has been granted by the State Legislature.

Early in the planning stage WEB sought funding and assistance from the Oahe Sub-district Board. Both past and present Boards supported the project. The Farmers Home Administration gave guidance and assistance on the state and federal levels. Since the B.O.R. and the Corps of Engineers could not assist us in the foreseeable future, W.E.B. continued to develop on its own and our project leaders were encouraged by our Congressional delegation in Washington starting in 1975-1976 that WEB continue as a grass roots entity.

WEB seemed secure when funds were authorized in the fall of 1980. Money was to be channeled through the FmHA, an agency helpful in Rural Water Programs. WEB expects to pay users fees for bulk repayment and operation costs. However, if delays continue, the WEB Project faces mounting inflation costs.

Of 17 towns authorized for Oahe Unit water, 10 towns could receive water supplies from construction of the WEB Pipeline.

The city of Aberdeen cooperated in the first WEB study. It also could receive some 273 (M.G.Y.) safe drinking water (treated) on an off-peak basis from the present WEB plan. Aberdeen is also looking at developing ground water, expanding the present capacity of existing dams, and reviewing options of receiving water from the

Garrison irrigation unit.

The immediate needs for domestic water in the WEB Project area are being ignored as citizens wait for Congressmen and State politicians to haggle over details of future water development and settlement of the Oahe issue.

The Oahe Irrigation Project is an open ditch irrigation project designed by the Bureau of Reclamation for the principal purpose of providing irrigation water. It was never designed to serve the needs of domestic water. The WEB Pipeline project involves a buried pipeline system which would serve treated domestic water. In my opinion it is not practical for towns and cities in South Dakota to be served from an open ditch delivery system like Oahe because they would have to construct a five month storage system to hold water during the winter months when the open canals were not operating. Most towns would have to construct new treatment plants to treat surface water, which requires different treatment than groundwater. From the information I have seen, the water could cost cities as much as 83¢ at the canal side, not counting in additional costs from the canal to the town or city.

Oahe was designed by the Bureau of Reclamation as an irrigation project and authorized by Congress with only secondary possible M&I water benefits. The WEB Project was designed specifically for domestic water service by private engineers with background and skills in building municipal and rural water systems. The WEB studies were paid for, for the most part, with local funds. Oahe costs were estimated in 1981 at \$913 million dollars, and would provide direct benefit to 600 irrigators in two counties. The WEB Project in contrast would cost about \$70 million dollars and would serve drinking water to 30,000 people in ten counties.

Summary

In summary, I am opposed to reauthorization of the WEB Project as proposed in S 1553 if it means (1) that the 1980 WEB authorization and the financial plan as authorized is lost, or (2) if it means that WEB will fall under the Secretary of Interior with the Bureau of Reclamation having charge of construction of the project. The WEB Project should be constructed by the Farmers Home Administration.

I am also opposed to the taking of the Oahe contracts away from the Sub-district and the local Irrigation Districts and placing the decisions on water in the hands of the Governor and the Secretary of Interior solely. Under South Dakota law we have a process for making water resource decisions which involves a combination of state, local and regional government. Without local decision making, mistakes will be made and there is a danger of a bad project being forced on the people and the Congress.

I support funding for the WEB Project, separate and apart from the Oahe Unit Irrigation Project. If there is such a thing as an Oahe settlement or trade, I think domestic water projects like WEB should get top priority.

I support release of 1981 WEB funds and funds included in the 1982 federal interior budget, with construction being handled and directed by the Farmers Home Administration.

I support the deauthorization of the Oahe Unit plan as authorized in 1968.

Thank you for coming to South Dakota and allowing me time to testify at this hearing.

Aberdeen American News

Aberdeen, South Dakota
Sunday, Aug. 30, 1981

WEB: Hope for the future or a futile wait?

By CINDY EIKAMP

American News Staff Writer

FOR YEARS the Simon has been hauling water from Hoven to his farm five miles away.

The water in his 1,000-foot artesian farm well isn't safe for human consumption. The water isn't even safe for poultry, but passes standards for other livestock.

Every now and then—he's not sure how often—Simon drives to Hoven, fills the tank on his truck with city water and drives back home to empty the water into a 8,000-gallon cistern.

For years Simon's well provided all the water the family and livestock needed. Several years ago another vein of water at about the 1,400-foot level broke into the well and contaminated the water. That's when he started making the trips to Hoven.

Simon could dig a new well, but that would cost about \$20,000 and there's no guarantee the water would be drinkable.

Simon hasn't made a decision on drilling. Instead he is waiting and watching the progress of a water plan that would deliver Missouri River water to his farm.

That plan is WEB, which stands for Walworth, Edmunds and Brown, the three original counties that

joined to study piping Missouri River water east. WEB has grown into a proposal that covers 10 counties and could deliver treated Missouri River water to 30,000 persons.

Simon has been watching WEB for several years.

"Five or six years ago I heard about WEB and wanted to see if it would ever amount to anything. Three or four years ago I went to a WEB meeting in Selby. I've been working with it ever since."

Simon sees WEB as the answer to his water problems.

So does Floyd Reidt. Reidt runs a dairy farm near Onaka and is no stranger to hauling water.

Two years ago Reidt had the milk truck haul water for his cattle. He said he was lucky he was the truck's first stop or it wouldn't have worked.

Drought lowered his well pressure. There are still water troubles on the Reidt farm. He said after the cows are watered in the morning "you don't go into the house to wash clothes or take a shower," right away because the water pressure is too low.

At 47, Reidt said he doesn't think he'll ever see WEB water on his farm while he's there. He admits he hopes politicians will stop disagree-

(See WEB, Page 2)

ing and "just get me some water; some how agree on something."

Simon and Reidt are just two examples of 30,000 persons waiting for WEB water. Already 2,700 farm families (representing 12,000 persons) have signed up for the water pipeline and 51 communities with a total population of about 18,000 are also eyeing WEB.

What the WEB pipeline would do is pipe treated Missouri River water from south of Mobridge to as far east as Day County with lines branching north and south to serve users.

The \$70 million project would include about 3,600 miles of buried pipe ranging in diameter from 27 inches to an inch and a half.

It would be capable of pumping 6 million gallons of treated water each day to users. Storage reservoirs along the way would store water for peak demand periods.

WEB supporters had hoped to have the pipeline in operation by 1984 but now WEB's whole future is uncertain.

WEB's future has been rocky whenever the federal government has been involved. The road ahead

Attachment to Mae Zemlicka testimony

September 12, 1981 - Pierre, South Dakota Hearing

'Just get me some water'

(Continued from Page 1)
could get rockier. Its authorization is in jeopardy.

WEB was the only federal water project authorized by Congress last year, but that authorization, which hinged on the Oahe Irrigation project's deauthorization, expires Sept. 30 if the Oahe project is still on the books. And there's disagreement on Oahe's deauthorization.

Gov. Bill Janklow is opposed to deauthorizing the Oahe project.

"Let's change it (the authorization) any way our people want, but let's not throw out the baby with the bath water," he says. "I don't think our two representatives and our two senators can get another water project out of Congress."

The domestic water pipeline's future is linked to the Oahe Irrigation project's death and that has upset a lot of people.

Anders Christensen, WEB spokesman, says Oahe-WEB will always be linked by congressional committees that dole out federal funds.

He maintains congressional committees will only approve WEB as part of a settlement for Oahe. He said South Dakota doesn't have enough political clout in Washing-

ton, D.C. to get WEB authorized without that authorization being related to Oahe's demise.

"We need a lever and that lever is Oahe," he said.

Hearings on WEB's reauthorization and Oahe's deauthorization are set for the first week Congress gets back from its Labor Day recess, but final action on that bill is unlikely before the Sept. 30 deadline.

So WEB will probably lose its authorization if the current authorization isn't extended as Morris Kurie, WEB chairman, has proposed.

But the \$61 question is whether that authorization—if lost—will be reinstated at a later date.

It won't be the first time WEB has lost something the federal government said it could have.

WEB lost \$310,000 in federal funds earmarked for studies of the proposal. Although the federal government earmarked the money for the South Dakota project, it couldn't find a way through the maze of red tape to get the money down to the WEB people.

Just this year WEB lost \$1.9 million the federal government said

it could have to begin construction. A congressional committee delayed the WEB start-up money until Oct. 1. But that money won't do WEB any good Oct. 1 if it loses its authorization.

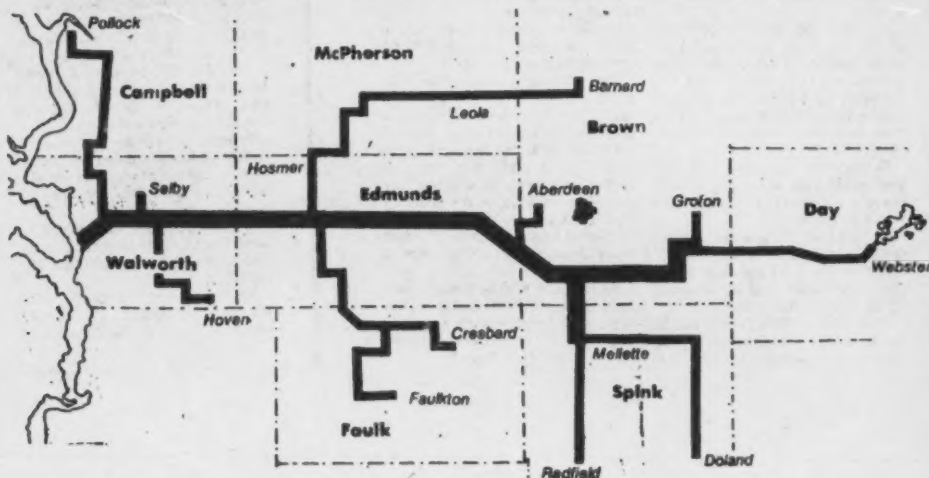
WEB supporters had hoped, with federal authorization and funding in place, to start work this summer on the intake structure and expected the total project to be done by mid-1984.

Now the 1984 target date appears to be out of reach. Christensen said it is physically impossible to build the pipeline and have it in operation by 1984 because of the delays, even if WEB's authorization was certain.

Christensen said WEB is like a "fragile egg. You can only handle it so long" before it breaks.

Some WEB supporters are losing hope. Reidt says he's sick of politicians fighting about the Oahe authorization and thereby WEB's future.

"For once I would like to go to the faucet and get a good glass of water," and Reidt says he doesn't see that happening unless WEB becomes a reality.



Senator MURKOWSKI. Thank you very much, Mrs. Zemlicka. We very much appreciate your testimony, and we thank the entire panel and wish you a good day.

Mr. ELDREDGE. Mr. Chairman, I would like——

Senator MURKOWSKI. Mr. Eldredge?

Mr. ELDREDGE. As one of the charter members and founders of WEB, Mrs. Zemlicka has done much more to bring water development and, most especially, WEB's case to the point it is now. I think WEB owes more to Mae than we can ever repay.

Senator MURKOWSKI. That's a very fine tribute. Thank you, Mr. Eldredge.

Our next group of witnesses that we would call on representing the CENDAK Steering Committee, Mr. David Hauschild, cochairman, accompanied by Don Faulstick, cochairman, and Mr. Doug Deiter, Roger Masat, and Curtis Bauman—and excuse me, Jerry Poindexter.

We welcome you to the committee and ask Mr. Dave Hauschild to proceed with his individual witnesses.

STATEMENT OF DAVE HAUSCHILD, PRESIDENT, CENDAK WATER SUPPLY SYSTEM

Mr. HAUSCHILD. Thank you, Mr. Chairman. My name is Dave Hauschild, a farmer and rancher from Pierre, S. Dak. And to save you time, we have written testimony. Many of our points have already been stressed.

To briefly outline my testimony, it is our concern that provisions made in 1944, the Flood Control Act, and the promises made for the loss of land is of great concern to CENDAK and the use of those facilities in our project.

To briefly explain what CENDAK is, it was—when funding was stopped in 1977 on the Oahe unit for construction, a local group of farmers in western Hughes County had formed an organization to use those facilities if they were not going to be used for anything else.

Out of that initial organization farmers in Beadle, Hand, Hyde, Faulk, and Spink Counties realized their needs for water development could be met by a water delivery system through the use of the Oahe unit facility.

CENDAK is a multipurpose project which will deliver water from the Missouri River in central South Dakota to the James River Valley in east central South Dakota. CENDAK will accomplish three main goals: To bring high quality water to nearly 400,000 acres of fertile land in central South Dakota; to develop sufficient irrigated land so that the economic trends of the area can be reversed; and to provide an assured supply of high quality water for multipurpose use in the project area.

CENDAK also has the potential to provide electricity from low-head hydroelectric facilities developed as part of the delivery system.

CENDAK has financed, with its own resources, a master development plan. The plan sets forth the development concept for the CENDAK water system.

To highlight, some of us believe with the majority of South Dakotans's repayment for the loss of lands. I will state that according to the Corps of Engineers 1980 Annual Operating Plan there had

been \$1.5 billion of flood damages prevented by mainstem Missouri River reservoirs and developed \$1.1 billion of power revenues and provided for navigation reaching 3 million tons in 1980.

The power revenues generated in 1980 alone was \$93 million. The payback at the time of construction of the mainstream system was \$1.46 billion.

While flood control, navigation and hydropower benefits have been received over the past 20 to 30 years, the fourth function—irrigation—has not been developed.

Many people within the CENDAK project area believe that the Federal Government should fulfill its commitment and assist in the development of an irrigation project desired by the local population.

CENDAK supports passage of Senate bill 1553. CENDAK believes Senate bill 1553 meets the commitments set forth in the Pick-Sloan program. It is especially important that the original low-cost hydroelectric pumping power be made available for water development purposes in South Dakota, and it's equally important hydroelectric power payback provisions be retained.

CENDAK urges early adoption of Senate bill 1553. CENDAK urges early approval of funds for detailed studies to carry out the provisions of Senate bill 1553.

S. 1553 and the CENDAK Water Supply System support and complement South Dakota economic development policies. CENDAK is included in the State water plan approved by the 1981 Legislature, and CENDAK, when developed, complements the South Dakota rail plan by providing increased agricultural products for shipment on the rail system.

Thank you. Mr. Chairman.

[The prepared statement by Mr. Hauschild follows:]

My name is Dave Hauschild. I am President of CENDAK WATER SUPPLY SYSTEM. Our organization supports S 1553.

S 1553 will provide a method to complete development of a water delivery system from the Missouri River to the James River. This concept was originally set forth in the Flood Control Act of December 22, 1944 and P.L. 90-453 of August 3, 1968.

The Flood Control Act of 1944, commonly known as the Pick-Sloan Program set forth a plan for the development of the Upper Missouri River. A series of dams would be built to eliminate Missouri River floods, provide hydroelectric power, and downstream navigation water. In exchange for the loss of over 500,000 acres of prime river bottom agricultural lands, the federal government would provide funding for irrigation projects in South Dakota. One of those irrigation projects is commonly known as the Oahe Project.

Land acquisition funds were appropriated for use in 1971. Actual construction began in 1974 and was stopped in late 1977.

The desire of local agricultural interest in west Hughes County, South Dakota to complete the Oahe Project canal system to Medicine Knoll, Hughes County, brought about formation of the West Hughes Irrigators' Association. Completion of the canal system would allow for irrigation activities to occur in western Hughes County, South Dakota.

CENDAK grew out of the West Hughes Irrigators' Association. Farmers in Beadle, Hand, Hyde, Faulk and Spink Counties, South Dakota, realized their needs for water could be met by development of a water delivery system.

CENDAK Water Supply System is a multipurpose proposal which will deliver water from the Missouri River in central South Dakota to the James River Valley in east-central South Dakota. CENDAK will accomplish three main goals: To bring high quality water to nearly 400,000 acres of fertile lands in central South Dakota; to develop sufficient irrigated land so that the economic trends of the area can be reversed; and to provide an assured supply of high quality water for multipurpose use in the project area. CENDAK has the potential to provide electricity from low-head hydroelectric facilities developed as part of the delivery system.

CENDAK has financed, with its own resources, a master development plan. The plan sets forth the development concept for the CENDAK Water Supply System.

The CENDAK people and others throughout South Dakota believe that they have special needs for major irrigation development. The Pick-Sloan Missouri Basin Program was developed and authorized by Congress as a four-function program: flood control, hydropower, navigation, and irrigation. The construction of six mainstem dams and reservoirs in the Upper Missouri River Basin adversely impacted the States of South Dakota, North Dakota, and Montana. South Dakota lost over 500,000 acres of Missouri River bottomlands to the mainstem dams and reservoirs. Over the past 20 years, the

downstream states have received full flood-control and navigation benefits. The hydropower function has benefitted the Upper Missouri River Basin, but at the same time has also benefitted the Lower Missouri River Basin and the areas outside the Missouri Basin, such as Minnesota and Iowa.

The 1980 Annual Operating Plan for the Mainstem Missouri River Reservoirs prepared by the Corps of Engineers lists accumulated project benefits. This report shows the mainstem reservoir system has prevented \$1.5 billion of flood damages, developed \$1.1 billion of power revenues, and provided for navigation reaching 3.0 million tons in 1980. The 1980 power revenues alone were \$93 million. Total cost of the mainstem system at the time of construction was \$1.46 billion.

While flood-control, navigation, and hydropower benefits have been received over the past 20 to 30 years, the fourth function -- irrigation -- has not been developed. Many people within the CENDAK project area believe that the Federal government should fulfill its commitment and assist in the development of an irrigation project desired by the local population.

CENDAK supports S 1553.

CENDAK believes S 1553 meets the commitments to South Dakota set forth in the Pick-Sloan Program (Flood Control Act of 1944). It is especially important that the original low-cost hydroelectric pumping power be made available for water development purposes in South Dakota. This commitment should be maintained.

It is equally important the hydroelectric power revenue pay-back provisions of the Pick-Sloan Program be retained. The Pick-Sloan Program provided that hydroelectric power revenues would be used to pay back part of the cost for water development projects. This commitment should be maintained.

CENDAK urges the early adoption of S 1553.

CENDAK urges early approval of funds for detailed studies to carry out the provision of S 1553.

S 1553 and the CENDAK Water Supply System support and compliment South Dakota economic development policies. CENDAK is included in the State Water Plan approved by the 1981 State Legislature. CENDAK, when developed, compliments the South Dakota Rail Plan by providing increased agricultural products for shipment on the rail system.

Thank you for the opportunity to present these views. Should you, Mr. Chairman, or the Subcommittee staff, have any questions, I would be happy to answer them now or provide additional information at a later date.

Chapter I

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The CENDAK Irrigation Project is an outgrowth of several attempts over many years to bring irrigation to Central South Dakota. The project will serve an area of approximately 400,000 acres in six South Dakota counties through a series of canals and pumping stations. The project would utilize a portion of the uncompleted Oahe Unit facilities, plus approximately 390 miles of additional main canals of over 100 cubic feet per second. This report presents a master plan for development of the area; the estimated costs, financing, and operating options; and the steps for conducting a feasibility study.

PROJECT DESCRIPTION

A preliminary plan has been developed that will provide irrigation water to 396,000 acres through a series of pumping stations, canals, laterals, and pipelines. The project will utilize water pumped from Oahe Reservoir on the Missouri River near Pierre, and will extend eastward to the vicinity of the City of Huron. Figures 1, 2, and 3 present maps showing the general location of the project, the lands to be served, and the preliminary alignment of the main project features.

The main features of the plan include the 3,200-cfs capacity Oahe Pumping Plant and Pierre Canal; the 381,000-acre-foot (active storage) Blunt Reservoir; the 7,300-cfs Highmore Canal; and numerous other canals, laterals, and pumping plants. The Oahe Pumping Plant, Pierre Canal, and Blunt Reservoir were all part of the partially constructed Oahe project.

Potential low head hydroelectric power sites have been identified on some of the main canals. These sites should be fully evaluated in future studies.

PUBLIC INVOLVEMENT

The CENDAK project is being sponsored by the steering committees established in each of the six counties and by an executive committee comprised of three members from each county committee. These groups have been actively generating local support for the project and have collected contributions totaling over \$100,000 from landowners who are interested in receiving water from the project. These monies have been used to pay expenses related to investigating the project and preparation of this Master Plan Report.

ALTERNATIVES CONSIDERED

A number of different canal alignments for the distribution system were considered in developing the irrigation system. Wherever possible, an attempt has been made to follow section lines for the canal alignment and stay away from wetlands and potential environmentally sensitive areas. The proposed system configuration is intended to be representative of the type of system that could be built to serve the lands identified for irrigation. It is likely that substantial changes could occur during feasibility and final design studies.

The cost of the major facilities for the CENDAK project is estimated at approximately \$375 million. This cost includes all major pumping plants, canals, canal branches, and appurtenant structures.

Based on the total area served, 396,000 acres, the unit cost of the main delivery system is \$950 per acre. Based on acres irrigated by the center pivots, 335,000 acres, the unit cost of the main delivery system is \$1,120 per acre.

In addition to the main delivery system, costs for laterals less than 100 cfs and on-farm facilities can be estimated by procedures outlined in a separate report on determining costs for the lateral distribution system. Two primary types of lateral distributions were considered; one with open gravity fed ditches to on-farm pumps and the other, pressure pipes served by pumping stations on the main canals. Typical cost of the open ditch lateral system would be \$1,070 per acre at 50-percent density. Typical cost of the pressure pipe lateral system would range from \$600 per acre for a pivot adjacent to a main canal to \$1,020 per acre for a single pivot 2 miles from the main canal^{4/a}.

Annual operation cost of the main delivery is estimated to be \$8.35 per acre for general O&M and \$1.01 per acre for basic pumping power cost. In addition, those areas requiring multiple pumping lifts, such as the Highmore Branch, could reach \$15.50 per acre based on the assumptions used.

FEDERAL INVOLVEMENT

The Oahe Unit of the Missouri Basin Pick-Sloan Project was authorized by Congress as part of the irrigation function of the overall basin plan and to replace lands flooded along the Missouri River when Oahe Dam was constructed. However, several groups voiced such strong opposition that the project was placed in a "deferred" status. Although the CENDAK project is not directly related to the Oahe Unit, the project sponsors would like to substitute proposed Oahe funding for the major facilities of the CENDAK project. The Federal

government would then be relieved of its responsibility to replace the original Oahe project lands. As part of the commitment of the Federal government to develop and improve living conditions in the Great Plains Region, provisions were enacted to utilize excess power revenues for water resources development. Fulfillment of that commitment, even 40 years later, would greatly enhance the CENDAK project.

PROBLEMS AND NEEDS

The project is designed to accomplish two main goals:

1. To bring high-quality water to nearly 400,000 acres of fertile lands in central South Dakota, and;
2. To develop sufficient irrigated land so that the economic trends in the area can be reversed and economic growth can be promoted.
3. To provide an assured supply of high quality water for multiple use in the project area.

The proposed CENDAK project is one of the most promising ways of accomplishing these goals.

INSTITUTIONAL ARRANGEMENTS

Three major areas requiring appropriate institutional arrangements are discussed. These are sponsoring entity, water rights, and financial arrangements. A unique project of the type envisioned will require an appropriate sponsoring entity. The entity must be legally strong, yet flexible to meet the changing needs of the project. It must also be acceptable to local members and local, state, and Federal governmental agencies. Five options were considered: a nonprofit corporation, an irrigation district, a water user district, a separate conservancy subdistrict, and the Oahe Conservancy Sub-District. It is recommended that a water user district be formed which covers only those lands to be irrigated.

Upon acceptance of a Master Plan concept and the establishment of a water user district, it is further recommended that a future use water application be prepared and filed with the state. This future use permit will require legislative approval. Upon completion of the preliminary plans and feasibility studies, the future use permit should be converted into a regular water right permit. This may be done in stages.

The final and most difficult institutional arrangement is to plan for financing of the project. Financing of the preliminary design and feasibility study could require up to 1 or

2 percent of the anticipated construction cost. Raising \$4 million to \$8 million, or \$10 to \$20 per acre, could be difficult. Initially a more limited feasibility could be undertaken with the preliminary design of a definite plan delayed to a later date. Options include a per-acre assessment, subdistrict or county financial assistance, state financial assistance, Federal government appropriations, and/or a combination of these methods. Considering the economic conditions of the project area with its recurring disaster designations due to drought conditions and its potential for a viable economy based on irrigated agriculture, it would be appropriate for Federal assistance in conducting the feasibility and preliminary design studies.

Financing of capital cost will again require innovative combinations of private and public assistance. Operational and maintenance costs, along with a portion of the amortized capital costs, should be covered by water service contract revenues.

Senator MURKOWSKI. Thank you very much, Mr. Hauschild. We appreciate your testimony.

We will call on the next witness, Mr. Faulstich?

STATEMENT OF DON FAULSTICH, CHAIRMAN, HYDE COUNTY WATER ASSOCIATION

Mr. FAULSTICH. Thank you, Mr. Chairman, Senator Abdnor and other members of the committee.

My name is Don Faulstich, chairman of the Hyde County Water Association and a farmer and rancher residing in Hyde County. I believe it would probably be appropriate if I paraphrased my remarks this forenoon in regard to the timeframe.

Senator MURKOWSKI. Please do. The committee would appreciate that. We assure you that your entire remarks will be in the record. Please proceed, Mr. Faulstich.

Mr. FAULSTICH. Thank you, Mr. Chairman. Hyde County has long recognized the potential benefits of an irrigated acreage close at hand. Local governmental agencies and organizations have long endorsed plans that would deliver large quantities of water through our county.

But it was only this past fall when it appeared certain that there would not be any water development under those plans then proposed that alternatives were investigated. The outcome, with cooperation from other counties, is the CENDAK plan.

We in Hyde County have long experienced the devastation of normal drought cycles. Although we have had years of drought since the 1930's, it was not until the decade of the 1970's that we again experienced a drought cycle approaching the severity of those never-to-be-forgotten 1930's.

In 1976, Hyde County was especially hard hit and 90 percent of our cattle were shipped out of the county, either sold or taken to areas where feed was available.

The Hyde County ASC paid out large amounts of Federal money for disaster payments, emergency feed programs between the 2 years that accumulated a multimillion dollars.

The Farmers Home Administration has also been very much involved in that they have loaned Hyde County farms and ranches multimillion dollars of low-interest emergency loans.

In 1980, SBA was involved in granting low-interest emergency loans.

The Riverside appraisal study, which was completed by the ABT Associated, Inc., and released in January 1981, investigated existing economic, demographic, and social conditions, and then made projections to the year 2000 with the assumption that no water resources development would be implemented.

Their study forecasted a continuing slow decline of population in rural and small towns. Of special concern to us is the apparent rapid drop that was not forecast.

Hyde County had a 1970 population of 2,515 people. The ABT report estimated 2,512 people for 1980, or nearly the same as 1970, but with a slow decline to the year 2000. In fact, however, the 1980 census showed Hyde County with a population of 2,069, a drop of 17.7

percent from 1970, and 446 fewer than forecast by the ABT study, and already 88 fewer than the projected figure of 2,157 for the year 2000.

If this downward trend of the 1970's were to continue at a constant rate 17.7 percent, by the year 2000, Hyde County will have a population of 1,402 people, a decline of 1,113 people from the 1970 census.

The ABT study provides data on earnings by worker. I think it would suffice to say at this time that Hyde County is well below the national average and below the State average and, according to their projections, our spread will continue to widen so that by the year 2000 we will only have approximately a third of the national average if their projections hold true.

It would appear that Hyde County is behind and we are going to be farther behind as time progresses.

The only way to change the current trends for both the demographic and economic indicators is to provide new wealth and in some way stabilize the local economy.

Senator MURKOWSKI. Mr. Faulstich, I wonder if in the time frame you could summarize your remarks now.

Mr. FAULSTICH. Yes, sir, I certainly will.

We feel that the CENDAK proposal would be one means of stabilizing the economy and also the demographic indicators.

Hyde County farmers and ranches that could possibly be served by the CENDAK proposal have indicated an interest in putting water on over 60 thousand acres of land. This is about 80 percent of the affected landowners.

Now, as I pointed out earlier, sir, the Federal Government is very much involved in providing financial assistance to the area landowners, but we feel that an approach of self-sufficiency would be much more appropriate to the present day philosophy, and this could be accomplished with an irrigated acreage.

Furthermore, we feel Senate bill 1553 could provide the vehicle for CENDAK to become a reality. Along with this bill we need the 2.5-mill power and the payback features of the Oahe authorizations.

We are not for deauthorization, but rather we would like to see a plan reformulation of the Oahe authorization that could possibly serve the needs of the CENDAK proposals.

This is in some small way, we would be able to settle—help settle the Government's moral obligation to South Dakota, that is assistance in developing irrigation to offset the loss of 500,000 acres of land in the mainstem dams.

I also have a resolution that was passed by the Hyde County Water Association in support of Governor Janklow's State water plan, which will be attached to my testimony.

Senator MURKOWSKI. It will be included in the record, Mr. Faulstich.

Mr. FAULSTICH. Thank you. And I thank the committee for their time, and if there are any further questions, I will be happy to answer them.

[The prepared statement of Mr. Faulstich follows:]

Senator Frank Murkowski
Chairman, Water and Power Sub Committee
Senate Committee on Energy and Natural Resources

Mr. Chairman, Senator Abner and other members of the Committee.

My name is Don Faulstich, Chairman of the Hyde County Water Association and a farmer-rancher residing in Hyde County.

Hyde County has long recognized the potential benefits of an irrigated acreage close at hand. Local governmental agencies and organizations have long endorsed plans that would deliver large quantities of water thru our county. It was only this past fall, when it appeared certain that there would not be any water development under those plans then proposed, that alternatives were investigated. The outcome, with cooperation from other counties is the CENDAK Plan.

We in Hyde County have long experienced the devastation of normal drought cycles. Altho the dirty thirtys were before my time, I vividly remember my parents telling of the hardships encountered in trying to establish a new home and farming operation. Those were times of very trying circumstances, and many were forced to leave their meager surroundings for areas where jobs could be found.

Altho we have had years of drought since the thirties, it was not until the decade of the seventies that we again experienced a drought cycle approaching the severity of those never to be forgotten thirties. 1976 saw Hyde County especially hard hit. 90% of our cattle were shipped out of the county, either sold or taken to areas where feed was available.

The Hyde County ASCS paid out \$498,000 for hay transportation in 1976, and made disaster payments of \$546,000. 1980 was another year of extreme drought for us. Again the federal government gave assistance thru the ASCS by paying about \$637,000 in low yield disaster payments on 48,648 acres. We must keep in mind that Hyde County is 77% grass lands

and these losses reflect only a small portion of the total loss. Payments were also made on the emergency feed program totaling \$551,254.

Another indication of the effects of drought cycle is the large amount of FmHA emergency loans. Our county office has moved several times in the last several years making it difficult to obtain actual figures, but indications are that it would be safe to say the Federal government has loaned Hyde County farmers in excess of \$5 million.

SBA had 76 applications for low interest emergency loans from Hyde County farmers and ranchers. ^{IN 1980} 26 applications were approved for a total of \$1,179,050, with this figure expected to increase with new criteria.

The Riverside Appraisal Study, completed by ABT Associates, Inc. and released in January, 1981, investigated existing economic, demographic and social conditions, and then made projections to the year 2000 with the assumption that no water resources development would be implemented.

Their study forecasted a continuing slow decline of population in rural and small towns. Of special concern to us is the apparent rapid drop that was not forecast. Hyde County had a 1970 population of 2515 people and in 1975 listed 2454. The ABT report estimated 2512 people for 1980, or nearly the same as 1970, with a slow decline to the year 2000. In fact however, the 1980 census showed Hyde County with a population of 2069, a drop of 17.7% from 1970, and 446 fewer than forecast by the ABT Study, and already 88 fewer than the projected figure of 2157 for the year 2000. If the downward trend of the seventies were to continue at a constant rate of 17.7%, by the year 2000, Hyde County will have a population of 1402 people, a decline of 1113 people from the 1970 census.

The ABT Study provides further data on earnings by worker. Hyde County had an actual average earnings by worker of \$4,448 in 1970, \$3,465 in 1975 and a projected figure of \$5,015 for the year 2000, an increase of 12.9%, all figures in constant 1967 dollars. This compares with an actual earning of \$7,090 nation wide in 1970 and a projected earning of \$14,000 in the year 2000, an increase of 97% nation wide.

It would appear that Hyde County is behind in earnings per worker now, but will become further behind as time progresses.

Further indications of the trend were obtained from general revenue sharing data. 1975 per capita income for Lincoln township was \$1,428 and for Valley township \$1815. Lincoln disorganized at that time, but figures listed for Valley township in 1977 shows a per capita income of \$1538 and for the entire County a figure of \$3,117 was used.

The only way to change the current trends for both the demographic and economic indicators is to provide new wealth and in some way stabilize the local economy. These goals could be accomplished with a significant increase in industrial development, but this is highly unlikely because of lack of raw materials to support such industry.

Large scale irrigation development could and would satisfy both goals. The increased volume of produce would have an dramatic impact on the local economy, it would stabilize the individual farmers operation, it would create new jobs to service the increased volume of business by the farmers, and in a relatively short time, agricultural industry would be attracted to such an area having a stabilized volume of agricultural produce available. This would create new jobs and add stability to the demographic and economic indicators.

CENDAK provides the means to satisfy the above needs and goals. Many Hyde County farmers and ranchers realize the potential of a large scale multi-purpose water development plan. They have indicated an interest in irrigating 59,662 acres of land and to emphasize that desire, have paid a small sum on those acres so that an appraisal level study could be completed by a consulting engineering firm. A Master Plan was developed and was just recently received. It is unfortunate that adequate time was not available to present the plan to the land owners prior to this hearing. However, I'm optimistic at this point in that I feel that the past enthusiasm and interest of the people will continue and CENDAK will become a reality.

As I pointed out earlier, the Federal Government is very much involved in providing financial assistance to area land owners. We feel an approach of self sufficiency would be much more appropriate to present day philosophy. Self sufficiency could be accomplished with the CENDAK project.

Senate Bill 1553 will provide the vehicle for CENDAK to become a reality and urge its passage. The area farmers and ranchers have made a contribution towards the CENDAK project, and if it is their decision to proceed, a feasibility study will be required. We will need assistance for financing a full feasibility and pre-design study. The use of Pick Sloan power at 2.5 mills would greatly enhance the CENDAK project. The use of the existing Oahe facilities will be needed and the payback features of the Oahe authorization will be required.

While irrigation is not to be viewed as a panacea for all people, those that desire to make a commitment towards that end should have an opportunity to reach their goal, that of making central South Dakota a better place for future generations. A plan reformulation of the Oahe authorization could bring this to reality.

We feel this plan reformulation would help settle the Federal Government's moral obligation to South Dakota, that is assistance in developing irrigation to offset the loss of 500,000 acres of land to the main stem dams.

Attached to my written testimony is a resolution passed by the Hyde County Water Association in support of Governor Janklow's State Water Plan.

I thank the committee for their time and if there are any questions I will attempt to answer them.

WHEREAS the Governor's Water Proposal responds to the comprehensive needs of the entire State; and

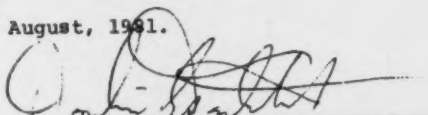
WHEREAS the Governor's Water Proposal takes into consideration the input at the grass-root level; and

WHEREAS the Governor's Water Proposal signifies a major breakthrough in water development in the State of South Dakota to develop a resource too long neglected; and

WHEREAS a unified approach to water development is now urgently needed;

NOW THEREFORE BE IT RESOLVED that the Hyde County Water Association go on record supporting Governor Janklow's Water Proposal.

Adopted this 31st day of August, 1981.


 Donlin G. Faulstich - Chairman
 Hyde County Water Association

Senator MURKOWSKI. Thank you very much for your testimony. We will call on the next witness, Mr. Jerry Poindexter.

**STATEMENT OF JERRY POINDEXTER, CENDAK STEERING
COMMITTEE**

Mr. POINDEXTER. Senator Murkowski and Senator Abdnor, I appreciate this time of the day to testify. I am a farmer from Hand County, S. Dak., and I am one of the few farmers from Hand County that is here today.

After a year of barely adequate rainfall, the corn has suddenly started to dry up, therefore, most of our farmers are at home trying to put up some feed for this winter.

In the testimony today, we have heard how some people in south central South Dakota can make a living farming on 8 inches of rain a year. Evidently their problem is too much water most years.

As far as I know, there is little you can do with too much water, however, they could move farther west where this is not a problem.

Hand County, S. Dak., has an annual rainfall of about 17 inches. This is not an overwhelming amount of rain. An even greater problem is the uneven way that we receive. Some years are wet; some are dry. The only thing that is for sure—every year will be different.

If a farmer is working a thousand acres and not making a living at it, he has choices. One of these could be working more land. I have read reports; talked with bankers and other financial people. Everyone I talk to assures me that if a farmer is losing even \$1 per acre, another 500 acres means more loss, not more profit.

Well, what can we do to stabilize this business? Water. The only major cause of crop disaster in this area that we have no control over is the weather—mostly hail or lack of water. Irrigation would mean stability for central South Dakota.

One of the things I have found most interesting this past year is the interest exhibited by area farms. There has been tremendous support from farmers. When we were trying to raise money for the soil and other studies this spring, I received a call from an area farmer. I explained our hopes and desires for water, and he was very interested.

But I had to explain that we could well be out of the area we could serve. He asked if 25 cents per acre would answer these questions. I replied that we thought it certainly would. I received his check in the mail.

Interest is so great in Hand County that we have raised over \$25,000 just to see if water can be delivered.

There is a lot of talk about the economics of irrigation. A case could be made for the Federal Government constructing and giving a major water delivery system to this area. I intend to do that.

If farming could be stabilized in this area, then disaster payments and the emergency feed programs could be drastically reduced. In fact, this is a case where the taxpayer may well be paying for an irrigation system whether we have it or not.

Wouldn't it be better to provide the farmers with the means to better themselves and their communities than to loan them into bankruptcy? It could very well cost the same, only the results would be different.

I have asked the Hand County ASC office for some figures for a

period starting in 1974 to 1980, and the lowest low-yield payments that they made in that time were \$453,000 in 1978, which was a pretty good year, to a high of \$2,296,000 in 1976, which was a total disaster year.

And the average with 2 years submitted that they couldn't find the figures for, the average for that period is \$1,191,000 per year. That would go a long ways toward helping with an irrigation system.

I believe Senate bill 1553 will help move South Dakota forward. It forms a basis for recognizing that changes have occurred since Oahe and that we are now ready to move ahead.

I want to thank the committee for this opportunity to speak to you.

[The prepared statement of Mr. Poindexter follows:]

STATEMENT OF JERRY POINDEXTER, CENDAK STEERING COMMITTEE

Senator Murkowski, Senator Abdnor, we need water. We need water in just about all of South Dakota. But there are some differences. One of these differences is that Central South Dakota has not only a need, but also a ready source. This source was formed when the Missouri River was controlled mainly to protect areas down stream. These control measures consisted of a series of dams which incidentally flooded several thousand acres of South Dakota. One of these dams is Oahe.

Now we have water in the Oahe Reservoir and we still need water for the people.

In the northern part of our sub-district there is a need for a stable supply of drinking water. The WEB pipeline is addressing that need. As long as there is public support for a workable project we can only support the efforts of WEB.

In the southern part of our sub-district there is a desire for water; water for irrigation, recreation, municipal and rural water systems.

Hand County, South Dakota, has an annual rainfall of about 17 inches. This is not an overwhelming amount of rain. An even greater problem is the uneven way that we receive it. Some years are wet and some are dry. Only one thing is sure; every year will be different.

How does this affect agriculture? An utter lack of stability. The economic times have been very bad for farmers. The boom or bust of water is the major difference between a crop or nothing. That is the reason we are here today. We need water. We need the stabilizing influence of water.

If a farmer is working a thousand acres and not making a living from it, he has choices. One of these could be working more land. I have read reports, talked with bankers and other financial people. Everyone I talk to assures me that if a farmer is losing even one dollar per acre, another five hundred acres means more loss, not more profit. Well, what can we do to stabilize this business?

Water! The only major cause of crop disaster in this area that we have no control over is the weather. Mostly hard water, or hail and lack of water. Irrigation would mean stability for Central South Dakota.

One of the things I have found most interesting this past year is the interest exhibited by area farmers. There has been tremendous support from farmers. When we were trying to raise money for the soil and other studies this spring, I received a call from an area farmer. I explained our hopes and desires for water and he was very interested. But I had to explain that he could well be out of the area we could serve. He asked if 25¢ per acre would answer these questions. I replied that we thought it certainly would. I received his check in the mail. Interest is so great in Hand County that we have raised over \$25,000,000 just to see if water can be delivered.

Another group of people in our sub-district are affected by S. 1553. These people have been very vocal in expressing their desires for Oahe. They have repeatedly and loudly asked for nothing. I hope this bill will satisfy those desires.

There is a lot of talk about the economics of irrigation. A case could be made for the Federal Government constructing and giving a major water delivery system to this area. I intend to do that. If farming could be stabilized in this area, then disaster payments and the emergency feed programs could be drastically reduced. In fact, this is a case where the taxpayer may well be paying for an irrigation system whether we have it or not. Wouldn't it be better to pro-

vide the farmers with a means to better themselves and their communities than to loan them into bankruptcy? It could very well cost the same, only the results would be different.

When you consider the economic benefits of irrigation, when you see how stability of a business encourages growth, it could mean more people on the land, more family farms and farmers. When a sensible and realistic solution appears to help keep people on the farm and promote economic well being rather than stagnation then you have people supporting the CENDAK concept.

I believe S. 1553 will help move South Dakota forward. It forms a basis for recognizing that changes have occurred since Oahe and that we are now ready to move ahead.

I want to thank the committee for this opportunity to speak to you.

Senator MURKOWSKI. Thank you very much, Mr. Poindexter. We appreciate your testimony.

We would call on the next witness, Mr. Doug Deiter.

STATEMENT OF DOUGLAS DEITER, FAULK CENDAK WATER USERS

Mr. DEITER. Thank you, Mr. Chairman, Senator Abdnor and members of the committee, my name is Douglas Deiter. I farm in the Faulkton-Orient area with my father and one brother. I am also testifying on behalf of the Faulk CENDAK Water Users.

I feel that further water development in South Dakota is a must. For without water development, we are going to see a continuing population decline in our rural communities.

In the Faulkton school system alone, they are seeing a very rapid decline in numbers. I graduated in 1969 in a class of 63. My children's classes have approximately 25 students. If this continues, we are going to see schools closed and small towns disappear. Water development is about the only thing that will stop this population decline.

Since the drought of 1976, Faulkton has lost two car dealers and are losing the International Harvester dealer as of November 1. Not because people are buying out of town, but because people are not buying period. They are just trying to hang on to what they have left.

As far as our own operation goes, from 1976 to 1981, a 6-year period, we have cut alfalfa hay a total of 3 years. In 1977, 1978, and 1979.

In 1977 and 1978, our hay crops were minimal because the drought hurt our stand so bad. It took until 1979 before we got a take on new seeding. In 1976 through 1980 and 1981, we did not put up one stack of alfalfa hay. We were forced to use our cash crops for a feed supply. In 1976, we were forced to sell all of our 1975 and 1976 replacement heifers, and again in 1980, we had to sell our replacements because of no feed.

As far as 1981, we are still hoping for an open fall so we can hang on at least until spring.

How do you put a value on three generations of replacements? The economic impact of such a period is devastating. You sell all your replacements and your income taxes go out of sight. Then you pay off your farming expenses with your cattle sales. When you try to buy cattle back with high-interest money, the problems just start to multiply.

But with one or two quarters under irrigation, the whole situation could have been prevented. So don't let anyone tell you South Dakota doesn't need irrigation or that the people don't want irrigation.

For in Faulk County alone, the people signed up 126,720 acres at a total of \$14,232 for the CENDAK irrigation proposal. We need a stabilizing factor. The ups and downs of droughts are killers.

Without a stabilizing factor, the small family farms will no longer exist. We are going to see the small farms be bought up with money other than farming money. I don't think this is what the United States needs.

The CENDAK project, serving a wide area and spreading over 6 counties and serving approximately 400,000 acres, would eliminate these disastrous situations, plus put water into the lower James River to supply Huron and Mitchell with a stable drinking water supply.

The passing of Senate bill 1553 would definitely get us started in the right direction. The people of South Dakota have given up thousand acres of land for the mainstream reservoirs and have waited a long time for a major irrigation project. I feel the Federal Government has a moral and legal commitment to the people of South Dakota.

If any water projects are to be developed, we—South Dakota—need to maintain the power rate and repayment provisions contained in the Oahe Unit Authorization. I feel CENDAK should play an important part in the State's water development.

We are definitely in support of Senate bill 1553. We sure in the hell need to do something and do it now. We have screwed around long enough, so let's get this bill passed and get some construction started.

I would like to thank the committee for their time.

Senator MURKOWSKI. Thank you Mr. Deiter. We appreciate your testimony, particularly its directness, and I think you made your points very well.

Mr. Masat is the next witness.

STATEMENT OF ROGER MASAT, SOUTHWEST SPINK WATER DEVELOPMENT ASSOCIATION

Mr. MASAT. Thank you. My name is Roger Masat. I am from Spink County and president of the Southwest Spink Water Development Association, which is part of the CENDAK water delivery system.

We have 32,960 acres in southwest Spink that farms have paid 25 cents an acre for water study. We have a tremendous interest for water in our area. The need for water is always discussed when farmers get together. We believe that the passage of Senate bill 1553 would greatly assist our State in water development.

This is an extremely busy time for farmers, and many felt they could not be present today but have sent letters today to be filed.

In the 1950's the dams on the Missouri River were built for hydroelectric power and flood control not only for our State, but for many others. South Dakota gave up thousands of acres of river bottom land for this purpose. In turn, we were to receive irrigation benefits. Thus far, there have been no benefits.

I realize the people of South Dakota have not been able to agree on water development, but South Dakota has a new water plan that I believe will be acceptable to most.

As an individual farmer, my family and I operate our family farm, consisting of a livestock enterprise and a small portion of cash cropping. The last 2 years we have experienced drought conditions

in our area forcing us to liquidate a portion of our foundation herd due to the lack of feed.

Many of my neighbors are experiencing the same hardships. Irrigating part of our farm would insure us feed for our livestock, and in turn stabilize our income.

Irrigation development would help not only farmers but many other businesses in and out of State. South Dakota does not manufacture all of the necessary equipment for irrigation.

One of our natural resources, the youth of our State, has been lost to other States due to the lack of opportunities. We believe water development will provide more opportunities for our young people.

We urge you to pass Senate bill 1553 feeling that it would greatly assist South Dakota in water development and in the near future deliver water to our area using the proposed CENDAK water delivery system.

Thank you.

Senator MURKOWSKI. Thank you very much, Mr. Masat. We appreciate your testimony.

The last witness on the panel is Mr. Curtis Bauman.

STATEMENT OF CURTIS BAUMAN, BEADLE COUNTY CENDAK WATER USER

Mr. BAUMAN. Chairman Murkowski, Senator Abdnor, and other members of the committee, my name is Curtis Bauman, I am a farmer from Beadle County. My specific farm lies about 10 miles north of Huron and lies within the proposed CENDAK area.

From my county alone, since 1976, the Farmers Home Administration has made drought disaster-related loans totaling in excess of more than \$52 million. The ASCA during that same period has made low-yield payments in excess of \$2 million. Neither of these figures reflects anything of the drought that we experienced in 1981 in Beadle County.

We have had some relief in the last month, as far as rain, but many of our crops are very short. Of course, as in all areas, rains are localized, and we get local rains. They are not always general.

Many of our farmers in the CENDAK have had to make decisions on whether to sell or maintain their herd. And if they are going to maintain them, they have had to buy high-priced rough feeds.

Grain can be transported fairly reasonable, but anytime you transport rough feed, the transportation just kills you.

The ability, especially of a young farmer, to withstand drought after drought in the face of 22 percent interest has dwindled tremendously. In my own farming operation, we have had to eliminate the feeder cattle aspect 2 of the last 5 years simply because of lack of any rough feed.

I am the chairman of the Beadle County Water Association and represent some 300 farmers and landowners that support the CENDAK plan in the western part of Beadle County.

I don't represent all interests, and I don't by any means claim to, but I do feel that the majority of the people affected in this Cendak area either support us directly by land participation or indirectly by not outright opposing it.

We feel that—or at least the feeling I get is that even though they may not want to irrigate, they may feel a secondary benefit from possibly an increase in the rainfall. When it's 105° out and the wind is blowing 30 miles an hour from the south, which is a very common occurrence in July in Beadle County, maybe the humidity would keep their corn alive if they have got four or five center pivots a mile away from them.

The proposed CENDAK project is not a large cash grain irrigation scheme. It proposes to stabilize feed supplies. It would do this on farms and ranches from Pierre to Huron and along the James River.

Now, we have many operators in Beadle County in our organization and who support us who irrigate out of the James River who have the investment in place of an irrigation system of a pump and have not been able to irrigate for the last 2 years simply because there has been no water in the river to pump.

These same operators, as well as others, have done the same as their other counties, committed so many dollars an acre or a portion of a dollar an acre in order to get something started, some type of water development.

With the drought we have had the last years, you could not do anything large. But as in any other counties, Beadle County totally has raised close to \$35,000, which is a large commitment, we feel, to come out of a farmer's pocket, it came out this spring in the midst of planting.

It seems to me that considering the loss of land to South Dakota from those mainstem dams on the Missouri River that the Federal Government does still have a moral commitment to fulfill it's obligation to replace those lost acres with irrigated acres.

The proposed Oahe Unit authorization may not have been a project that farmers in north central South Dakota wanted, but the benefits which it provided in low-cost power and repayment provisions would and should be used to develop other irrigation in our State.

And with those remarks, I would like to say that Beadle County and myself especially does support S. 1553. Thank you, sir.

Senator MURKOWSKI. Thank you very much, Mr. Bauman. We appreciate your testimony and note your support of S. 1553.

We are going to divert momentarily from the prepared list of witnesses to accommodate two gentlemen who have conflicts this afternoon, Mayor Paul Tobin, mayor of Mitchell. We would ask Mayor Tobin to come to the witness table.

And Mayor Rick Knobe, mayor of Sioux Falls. And if the two gentlemen could appear jointly on the panel, we would appreciate it.

While they are coming up, I would advise the audience that these will be the last witnesses prior to a break for lunch. We will take approximately 1 hour. And unless I hear otherwise during the luncheon, I am going to ask your consideration in reducing the time for testimony of the balance of the afternoon's witnesses. Otherwise, I question whether we will finish today. Let's go to 3 minutes.

And I would urge you not to feel uncomfortable about generalizing your prepared testimony. During the approximate hour in which we will have the luncheon break, it's perfectly permissible for you to underline those portions of your testimony that you feel have not been directed to the Chair from the standpoint of repetition. And I assure

you that while we appreciate your individual efforts, the points are made in the record totally, and what we are really looking for at this point are those particular points that you feel have not been raised that are paramount and important to the hearing record.

And, therefore, I think it quite reasonable to ask your indulgence to limit your testimony to approximately 3 minutes. With that, Mayor Tobin and Mayor Knoke, I would ask that you proceed.

**STATEMENT OF PAUL F. TOBIN, MAYOR, CITY OF MITCHELL,
S. DAK.**

Mayor TOBIN. Chairman Murkowski, Senator Abdnor, thank you for the opportunity to do this, and indeed we will paraphrase. If you don't know where Mitchell is, that's where the Corn Palace is.

It's been said before that we know where Mitchell is and we know where the Corn Palace is. Our concerns are for a decent water supply. Our treatment plant is in need of replacement; it's 50 years old. We are in danger of being unable to meet Federal drinking water standards by 1983 if we do not replace it.

In that concern we are going to correct our distribution system, our storage facility. We will rebuild or replace our treatment plant. This is in the area of approximately a \$10 million bond issue we are going to support. We are confident it will pass this coming December.

We have so far in the previous 9 years spent approximately \$11 million in that direction in getting ready for this.

When we get all of this accomplished, we are still lacking in one item, and that is a water source. At that point, we intend to tie on to one of the viable proposals, such as Cendak, possibly the Garrison, or whatever else may come down the line that we can throw our support to.

I think we would like to indicate that the city of Mitchell has spent an ample amount of money, and we are prepared to spend more to join into a proposal that will benefit us as would our dollars benefit that proposal.

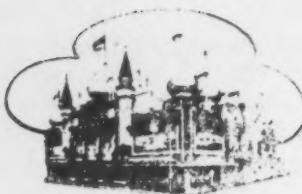
I will make this—in summation, Mitchell and Davison County appreciate the opportunity to be recognized as having already done much for ourselves. We have spent a great deal of money and we will continue to spend substantial amounts to solve our water problems. And our willingness to do so can benefit any proposal that will mutually benefit us.

Thank you for this opportunity.

[The prepared statement by Mayor Tobin follows:]

City of Mitchell

office of Mayor



★ PHONE 605, 996-2142

★ MITCHELL, SOUTH DAKOTA 57301
September 11, 1981

Senator Frank Murkowski, Chairman
Water & Power Sub-Committee
Senate Office Building
Washington, D.C. 20510

RE: Mitchell - Davison County,
South Dakota - Water Report
Dated September 12, 1981

Dear Senator Murkowski:

Enclosed please find copies of the City of Mitchell - Davison
County, South Dakota Report on their water project.

Yours respectfully,

For The Davison County Commission
and the City of Mitchell, South Dakota

Paul F. Tobin, Mayor
City of Mitchell, South Dakota

LL:deh

Enclosures

MITCHELL - DAVISON COUNTY, SOUTH DAKOTA WATER REPORT

SEPTEMBER 12, 1981

Mitchell is located in Davison County on Interstate Highway 90 approximately 64 miles west of the intersection of Interstate Highway 90 and Interstate Highway 29.

The population of Davison County is 17,820 people, with 13,916 of these people living in Mitchell.

Mitchell primarily depends upon agriculture and tourism for it's livelihood. Industry is beginning to make a strong showing and with adequate water we will be able to attract more industry due to our attractive business climate and good transportation facilities. Increasing our industrial base will give us a more stable economic climate.

Mitchell and Davison County have several water problems.

We are faced with an inadequate source of water. Ground water sources are very limited throughout the county both in regard to quality and quantity. Mitchell's only available local sources are surface runoff to our Lake or the Jim River. These sources are not taking care of our needs. We are now restricting the use of water.

Our treatment plant needs to be replaced. The equipment is worn out, and parts are no longer available. The process is also obsolete. Unless we change our process to lower the content of trihalomethanes by 1983, we will be in violation of the Federal Drinking Water Standards.

Our Lake and dam have serious problems.

Our distribution system is inadequate.

Our storage facilities need repair.

We are working on these problems, we have a plan and we are proceeding to follow the plan to solve the problems.

Since 1972, Mitchell has with the help of funding sources available spent \$10.8 million to improve quality, supply, distribution, and storage facilities for the water in the City and to improve the water quality of the Jim River.

In 1982, the City and County will be spending approximately \$1,510,000 for water improvements from their own resources.

We plan to have a City Bond Election in December, 1981 to finance approximately \$10,000,000 worth of improvements which include the dam, plant, distribution, and storage improvements. The improvements planned will be sized to handle the needs of Mitchell and Davison County.

When these projects are all completed, we will still be without an adequate water sources unless we receive help.

Within the Bond Issue will be \$1 million for a water source. Our plan calls for a \$26 million pipeline to the Missouri River for the source of best water for Davison County and the City of Mitchell. The County and City do not have the financial ability to fund such a project by ourselves. The \$1 million is included in the bond issue as money to be available to work towards a water solution.

We assume that any water source project will be based on this same funding criteria as the W-E-B Project. It should be noted that the W-E-B project will cost \$2,333 per capita within the serving area whereas the Mitchell-Davison County pipeline project would cost an estimated \$1,530 per capita, which is a saving of \$800 per capita.

Alternative projects that could provide a water source for us are the CenDak Project and Garrison Project. If either of these projects become a reality soon and if they would provide an adequate, good quality supply of water for the City of Mitchell and Davison County, we would be happy to support either project.

At the recent presentation of the Governor's Water Plan in Huron, it was very capably explained about how the people of South Dakota relate to agriculture. As the farmer flourishes or suffers, likewise the general population flourishes or suffers. The thrust of this meeting was clearly irrigation directed and rightly so. Irrigation will stabilize the sporadic rise and fall of agricultural prosperity in response to nature's cycles.

Water furnished to Cities to increase our industrial possibilities will also help to promote South Dakota's economic welfare.

Any water proposal, irrigation, domestic, or municipal will be expensive and clearly in need of all possible participation to cost-share the projects. This will include irrigation, community, and Federal dollar contribution.

The City of Mitchell and Davison County stand ready to participate in cost sharing for a viable proposal that will meet our requirements for an adequate source of water. The Mitchell pipeline, CENDAK, or Garrison, which ever looks the best, is the project we will support.

In summation, Mitchell and Davison County appreciate the opportunity to be recognized as having already done much for themselves. We have a plan to alleviate our water problems. We have and are continuing to spend substantial amounts to solve our water problems. Our willingness to do

so can benefit certain proposals that will mutually benefit Davison County and the City of Mitchell as well as the project we choose to support.

This report is respectfully presented for Davison County and the City of Mitchell, South Dakota by Paul Tobin, Mayor.

Senator MURKOWSKI. Thank you, Mayor. We appreciate the summary of your remarks, and the entire remarks, of course, will be in the record.

Mayor, you may go ahead.

**STATEMENT OF RICK KNOBE, MAYOR, CITY OF SIOUX FALLS,
S. DAK.**

Mayor KNOBE. Thank you, Mr. Chairman. The city commission of Sioux Falls and the Citizen's Water Advisory Board of Sioux Falls urge your support of Senate bill 1553, as we feel this is a realistic effort to obtain Federal commitment to water development in the State.

We are aware that Federal funding of water projects is going to be in short supply. However, we hope that the Congress will feel that there is some obligation to bring water development to South Dakotans in lieu of the Oahe and Pollock-Herreid irrigation projects to compensate for the lands lost to the Pick-Sloan projects.

Referring to the summary of the July 30 Congressional Record on South Dakota Water Development—point No. 4—and I quote:

The Secretary would be authorized to consider and recommend to Congress for construction authorization any project proposed by the State of South Dakota under the State water planning process.

The State planning process was given emphasis by the Carter administration, which promised to give prompt consideration to proposed projects, and the Reagan administration, too, has admonished the State to "get its act together."

We are aware that all the proposed water projects in the State cannot be given first priority, and we in Sioux Falls are content to wait our turn—provided our turn does come.

By 1990, unless strenuous water development steps are taken, Sioux Falls will experience insufficient water for our contemplated growth. Sioux Falls is still awaiting the final Bureau of Reclamation environmental impact statement for the Slip Up Creek water project. This was a project that was included in the State water plan as passed by the 1981 State legislature. It has also been endorsed by the Minnehaha County Commission, the Sioux Falls City Commission, the Sioux Falls Citizen's Water Advisory Board, and other groups.

The Slip Up Creek project will impound flood waters that no one else wants, for later use, while at the same time creating much-needed water-based recreation for the area, as well as reducing irrigation competition for the Big Sioux River aquifer water.

We in Sioux Falls will seek authorization for the project, with the understanding that we will have to wait our turn for funding. When that is available to use and we know the bottom line, we will go to our citizens for a vote.

We concur with Senator Abdnor and Governor Janklow that we should all pull together for the water development that is vital for the entire State. We in Sioux Falls will put forth any effort to see that this is done. We do hold a "me first" attitude.

Mr. Chairman, we do have our act together, and we hope you in Washington can help us get the show on the road. We are a small State; we are a poor State; and we are a thirsty State. The Pick-Sloan projects have made us a little smaller, made the States around us a little

richer. But with the passage of Senate bill 1553, perhaps we will no longer be thirsty.

Thank you, Mr. Chairman.

Senator MURKOWSKI. Thank you for your testimony, Mr. Knoke. I commend you. The record certainly notes that you have indicated that you want your turn, and I think that's certainly fair.

Might I ask if Mr. Richard Peter, the commissioner of Sioux Falls, has a statement?

Mayor KNOBE. He is not here, sir.

Senator MURKOWSKI. Thank you very much, Mayor.

With that, we will adjourn until 1:15. And again, I would remind you that we will limit testimony to 3 minutes. Thank you. The hearing is adjourned for lunch.

AFTERNOON SESSION

Senator MURKOWSKI. We will call the hearing to order, please. I would request that the audience that's in the back of the room, please take a seat so we can proceed.

Trusting that you have all had an opportunity either of lunch or to enjoy the sunshine, we will now call on our first witness, Mr. Jerry Siegel, manager of the East Dakota conservancy subdistrict, Brookings, S. Dak.

Will Mr. Siegel come before the committee and take a seat at the witness table. Is Mr. Siegel in the audience?

[No response.]

Senator MURKOWSKI. Mr. Siegel may still be at lunch. We will move along, then, if Mr. Siegel is not here and try to accommodate him later—Mr. Siegel, we just about passed you up.

I would remind you that this portion of the afternoon is limited timewise, and I would respectfully request that we keep our remarks hopefully down to an abbreviated 3 minutes where you can highlight the substance of your testimony. I assure you that your full testimony, your written testimony will be entered into the record in its entirety.

So, with that, Mr. Siegel, welcome to the afternoon session of the committee, and you may proceed.

One other thing, I would remind anyone who did not attend the morning's hearing that you may register in the back of the room, and a printed hearing record will be made available to you upon your request.

With that, Mr. Siegel, welcome to the committee.

STATEMENT OF JERRY SIEGEL, MANAGER, EAST DAKOTA CONSERVANCY SUBDISTRICT, BROOKINGS, N. DAK.

Mr. SIEGEL. Thank you very much. Mr. Chairman, one of the projects contained in Governor Janklow's proposed water development program as presented in Huron on August 13, was the eastern South Dakota hydrologic study. My 11½-county area in eastern South Dakota covered by the east Dakota conservancy subdistrict, of which I am the manager, is underlain by a number of unique high-quality shallow aquifers.

Back about 1976, local people in the area of eastern South Dakota became interested in doing a more intensive study of their water re-

sources, because in our area with these shallow aquifers there, the problem more is locating where the good quality water is so that it can be put to use.

So we initiated a study called the eastern South Dakota hydrologic study, which is a computer model study of the aquifer system. With this type of study, it will allow us to find out in advance what resources are there so we don't either over- or underdevelop the aquifers.

That project was the one that would be known as the eastern South Dakota hydrologic study. This is the project that my particular sub-district identified as the No. 1 water project in our area, and then board action taken about 1 month ago.

So since a portion of this Senate bill 1553 would provide for studies on various water projects and possible facilities, the Governor's proposed water development program, by subdistrict would be in support of this particular bill.

Senator MURKOWSKI. Thank you very much, Mr. Siegel. We appreciate the knowledge that you do support the bill, and we thank you for your concise testimony and wish you a good afternoon.

Mr. SIEGEL. Thank you.

Senator MURKOWSKI. The next group of witnesses will represent the Garrison extension, James River Valley. We would call on Mr. Raymond Braun, chairman; Mr. James Young, also chairman; Mr. George Shuller, director; and Mr. Earl Chesnick, accompanied by Roland Sieh, Charley Boynton and John Kleinsasser, as well as Mr. Chester Gullickson.

Assuming we have enough room at the witness table, I would ask you gentlemen to proceed. While we are waiting, Senator Abdnor, do you have any remarks or observations?

Senator ABDNOR. No.

Senator MURKOWSKI. If there is not enough room, we can do it in two shifts, but I think there is enough room.

Assuming that we have the witnesses in their entirety; there appears to be one or two missing, but we would welcome them as they may appear.

I would ask the first witness, Mr. Raymond Braun, chairman of the James River Flood Control Association, Mellette, S. Dak. to please proceed with his testimony.

**STATEMENT OF RAYMOND BRAUN, CHAIRMAN, JAMES RIVER
FLOOD CONTROL ASSOCIATION, MELLETTE, S. DAK.**

Mr. BRAUN. Thank you, Mr. Chairman. I will try and summarize this as fast as possible.

Mr. Chairman and Senator Abdnor, my name is Raymond Braun from Mellette, S. Dak. I operate a grain and livestock farm in Spink County with my sons. I own and farm land in the Spink County Irrigation District which would be served by the original Oahe project, and was one of the original people who helped carry petitions to form the Spink County Irrigation District in 1965.

I come before this committee today to ask that the U.S. Congress deauthorize the Oahe unit irrigation project. I have studied Senate bill 1553, and I feel it needs to be amended in order to assure that the Oahe is not constructed as planned.

There are many reasons why the Oahe unit irrigation project failed and should no longer be constructed. The first major problem with the Oahe unit was that many of the lands classified as irrigable by the Bureau of Reclamation in the Lake Plain area would not, in fact, withstand long-term irrigation. Further, the Bureau of Reclamation's soil classification program lost credibility when soils were reclassified in the project area in order to show enough irrigable acres so that the project could be authorized.

First, I would like to draw your attention now to exhibit No. 1. I am going to make this as brief as possible. This is—and you have got it on your map—this one here happens to be color coded.

And these soils were deposited by glaciers which formed the Lake Plain area thousands of years ago. The glaciers and the waters which deposited the soils did not run on the survey lines. As you notice the classes of irrigation on the irrigated lands, green is one; blue is two; yellow—red two; blue is three and yellow is class 2.

And you have got class 1 against class 6. Everything looks fine and in order as long as you look at this map and—they classified it down to a tenth of an acre. It's when you put sections together that you run into problems. And so it boils down—

This one here is going to be deep plowed, and the other farmer right across the line does not need deep plowed. So, then—OK, so much for exhibit 1.

Now I would like to draw your attention to the Bureau of Reclamation's soil classification of some land that's been originally farmed. This is located in Mellette Township, Spink County, and happens to be in what is called the Northville Black. It was originally classified in the fifties prior to the time the irrigation district was formed.

I went to the Bureau of Reclamation office in Huron and looked up the classification map of this land, which is exhibit 2 that you will find in the back of these pages of testimony.

You notice in exhibit 2, the southwest one-fourth of 16 was class 3—or class 6 land with an "S" behind it, which means soil deficiency.

Now, I would like to draw your attention to exhibit 3. That's a 1968 map of the same section. You can see that this land has been reclassified. The southwest quarter section, which was class 6 land in the original map, is now classified as class 3 land, or irrigable.

The soils did not change during that period of time; only the Bureau of Reclamation's need to show more irrigable acres within the irrigated district boundaries.

The Bureau of Reclamation's minimum standard for permeability for all arable land classes calls for a stable intake rate of .20 inch of water per hour or more on a bare or cultivated surface associated with a permeability of .06 inch per hour or greater below the 2-foot depth.

Now, exhibit 4 shows—I requested from the South Dakota State University to do some tests on that, and that's the results of some of their rain tests. They did not meet the standards.

There were quite a few letters involved with that. And there three exhibits of four and finally ended up being the college made one statement in there that the real way to answer whether or not the quarter could be irrigated would be to try and irrigate it, I guess.

In 1976, I ran a permeability test to determine how the soils would react under normal moisture conditions when the soils tend to swell

up. The experiment ran from September 28 to October 13, 1976. The tests showed that over a 15-day period the soil had an intake rate of only .0131 inch per hour—in exhibit 5. This is far below the recommended rate for irrigability.

Photographs were taken of the test site as is shown by exhibit 5a—wait. I thought that was exhibit 4. It's the one that I showed you with the map up there. I don't have it here now. Of the coded—the color-coded one.

Those photos gives you an idea of what we did. We drilled a 4-inch hole underneath that drain, and that water settled in for that length of time.

After these soil tests were revealed, the Bureau of Reclamation ran a number of their own tests on this part of the land. However, the results of these tests were never made public. I contend that the permeability problems identified by my tests and the tests run by the South Dakota State University will not be refuted by the Bureau, because if they could have, they would have.

Exhibit 8 is a copy of the table 6D taken from the 1971 definite plan report completed by the Bureau of Reclamation. This shows that the permeability of silt-clay soils in the Lake Plain area is .03 inch per hour, or considerably less than the .06 rate normally required for irrigation.

In back of those others, then, I had some irrigation tests—irrigation maps. This one here—Harvey, would you hold it up? I think it's little—

Senator MURKOWSKI. Mr. Braun, those would be available for the record, if you care to submit them. They will be included.

Mr. BRAUN. Well, I wouldn't—this can be made available, but I would just soon keep these [indicating].

Senator MURKOWSKI. All right. It's your choice, sir.

In view of the time limits, I would ask that you summarize your remarks, please.

Mr. BRAUN. All right.

Well, this one here just shows that there has been all these test holes over this site.

Senator MURKOWSKI. We have your pictures here, sir.

Mr. BRAUN. Yes; and the silty-clay loam is the thing that I was getting at, the B-5. And there is also another layer down deeper than the B-5, and that's where we can see where we were going to run into problems with that.

OK. Another important area of drainage concerns the reduction of the number of miles of tile drains planned for the project. In exhibit 10, the Commissioner—in May 1965, the Bureau Regional Director to the Commissioner of the Bureau of Reclamation seems to confirm that statement. The memorandum states in part that there was more or less—wait a minute:

A major change has been made in the subsurface drainage system. Drain requirements on the Oahe Unit have received intensive study during the past two years. Improved field testing techniques and procedures were employed in collecting additional subsurface drainage information. Subsequent evaluation and analysis of the data supported a reduction in subsurface drainage requirements from that outlined in the 1960 report. This resulted in a substantial reduction in the total cost of drains as well as the total investment in the project.

Now, this is referring to the three foot—raising the four-foot water table to a three-foot water table.

Senator MURKOWSKI. I must ask you to summarize your testimony, Mr. Braun.

Mr. BRAUN. I would like to at least go through the exhibits.

Senator MURKOWSKI. Well, those exhibits are much more meaningful to the committee as submitted, because we have seven witnesses, and in fairness to the other witnesses and the other people in the audience who are going to adhere to the time restraint, I would respectfully ask that you summarize your remarks.

Mr. BRAUN. OK. Exhibit 11, it's taken under oath. It's a court case in 19—I can't remember the date, but by Ray Winger—

Senator MURKOWSKI. This information will be in the committee files as submitted, so I again would request your summary.

Mr. BRAUN. All right. Now, then we get over to the channel capacity of the river, which is exhibit 12, which goes all the way from 10 foot down in Ashton to 6 foot at district mile marker, Highway 12, and it's less than that—or that minimum on to about the Sand Lake.

Now—OK, exhibit 13, this supports the data of the amount of the capacity of the drains.

Also in exhibit 14 is enclosed. This is the one that is composed in a 1977 letter written by the Bureau of Reclamation which States in part, depending upon the time we built the plant, the Garrison Diversion project in North Dakota could increase the average annual flow to the James River almost 500,000 acres annually.

In another letter, it says—this is contained in the authorizing legislation, "The Secretary shall give consideration to returning to the Missouri River to the fullest extent practicable such of the return flows as are not required for beneficial purposes."

That statement right there in the Garrison authorization is one of the main reasons why the James River flood control is in litigation with the Interior Department as of this time. And the rest of that.

OK, then I'll just briefly summarize that.

Exhibit 15 just shows that the sulfate content and the amount of acre feet of water for dilution on some of the sulfates to bring it down to 215 for 1 acre foot. This brings me down to page 8.

Senator MURKOWSKI. I must ask at this time that you summarize your remarks, please.

Mr. BRAUN. OK. I have got one copy here, Mr. Green's from the EPA statement.

Senator MURKOWSKI. That will be noted in the record.

Mr. BRAUN. OK. And—

Senator MURKOWSKI. Would you give us your summary as evidenced on page 8?

Mr. BRAUN. OK. In summary, it is my testimony that the U.S. Congress should consider immediate deauthorization of Oahe unit, or at least those features which are planned and designed specifically to deliver water to Brown and Spink counties.

I think that Senate bill 1553 should be specifically amended so that all canals, reservoirs, delivery canals, and so forth, and also this Garrison thing.

I thank you for allowing me to testify.

[The prepared statement of Mr. Braun follows:]

Raymond Braun
Mellette, South Dakota

TESTIMONY

September 12, 1981
Senate Subcommittee on Water & Power
"PUBLIC HEARINGS ON S-1553 ... OAHE UNIT"

Mr. Chairman, and members of the Senate Subcommittee on Water and Power. My name is Raymond Braun from Mellette, South Dakota. I operate a grain and livestock farm in Spink County with my sons. I own and farm land in the Spink County Irrigation District, which would be served by the original Oahe Project, and was one of the original people who helped carry petitions to form the Spink County Irrigation District in 1955.

I come before this committee today to ask that the United States Congress deauthorize the Oahe Unit Irrigation Project. I have studied Senate Bill 1553 and I feel it needs to be amended in order to assure that Oahe is not constructed as planned.

The Oahe Unit Irrigation Project was authorized by Congress in 1968. House Document 163, which serves as the authorizing document, spelled out exactly what features were to be constructed as part of the authorization. They included a system of canals, reservoirs, secondary canals, and other features to serve 190,000 acres of irrigation in the Lake Plain area in Brown and Spink Counties. Senate Bill 1553 proposes to expand that authorization to include authority for study and construction of a number of other projects not yet studied or determined feasible. However, the Bill (S-1553) does not really dispose of the old Oahe Unit plan. Technically, it proposes to use physical features as well as financial benefits authorized for Oahe Unit, for other water projects, yet it attempts to leave the Oahe Unit plan authorized.

Aside from the merits of these other projects being considered in the legislation, I think section 3 of S-1553 should be changed so that the physical features of the old Oahe Unit plan authorized by Congress in 1968 are no longer authorized for construction.

There are many reasons why the Oahe Unit Irrigation Project failed and should no longer be constructed. I feel it's important that they be addressed at this hearing to avoid future problems with other projects and to support the testimony I have presented on this Bill.

Soils and Drainage Problems - Oahe Unit

The first major problem with Oahe Unit was that many of the lands classified as irrigable by the Bureau of Reclamation in the Lake Plain area would not in fact withstand long-term irrigation. Further, the Bureau of Reclamation's soil classification program lost credibility when soils were "re-classified" in the project area in order to show enough irrigable acres so that the project could be authorized.

Another major problem, was the decision by the Bureau of Reclamation in the early 1960's to cut half of the buried tile drainage out of the project plan in order to reduce total costs and improve feasibility for authorization. That decision would allow the water table under lands in the Lake Plain area to rise from 4 feet to 3 feet from the soil surface. A minimum water table of 4 feet is needed to protect soils from water logging, seepage, and accumulation of salts in the 3 foot root zone.

I spent considerable time reviewing and studying the characteristics of soils in the Oahe Project Lake Plain area and would like to point out to the committee several discrepancies in the land classifications conducted by the Bureau of Reclamation which I have found. Bureau soil maps are very detailed and define lands down to 1/10th of an acre on a 40-acre plot. They classify the lands as either Class 1, Class 2, Class 3, Class 5S, or Class 6. Classes 1, 2, and 3 are irrigable according to the Bureau of Reclamation and will be charged for water use from Oahe Unit. Class 5S is non-irrigable land which the Bureau says is "potentially arable if plowed to a depth of 36 inches". This is called deep plowing. According to the Bureau figures, there are more than 27,000 acres of this type Class 5S land in the project area which will require deep plowing to a depth of 3 feet, which is costly to do, and would be done at the landowners expense, not as part of the project cost. The success of deep plowing is not well known or defined. The Bureau of Reclamation soil manual defines 5S land as follows...."the designation of Class 5S is tentative and must be changed to the proper arable class or classed non-arable prior to completion of land classification". Class 6 lands are not irrigable, and under project plans, would not receive irrigation water. All lands in the project area are placed in the different classifications because of certain deficiencies such as soil, topography, drainage, or a combination of these.

On the surface, the Bureau of Reclamation's soil classification looks good and one would tend to be very impressed with it, but the underlying facts show that there are some obvious problems.

Reclassification of Lands

I would draw your attention to Exhibit 1 which is a portion of a January 20, 1972 soils map, published by the Bureau of Reclamation (see attachment 1). I would draw the committee's attention to Sections 21, 22, 28, and 27, T. 119 N. Range 64 W., which I am personally familiar, and which I have marked on the map. You will notice, if you put the classification map of one section beside the classification of the adjoining, you find that the soils of one section may be classified considerably different than the soils of the adjoining section, even though they are only separated by a survey line. Soils are classified according to many physical characteristics which were determined when the soils were formed. These soils were deposited by glaciers, which formed the Lake Plain area thousands of years ago. The glaciers, and the waters which deposited the soils, did not run on the survey lines. This "changing of the soils" at section lines caused considerable reservation and concern among the landowners, and resulted in considerable loss of credibility to the Bureau's soil classification program.

Now, I would like to draw your attention to the Bureau of Reclamation's soil classification of some land which I originally farmed. This land is located in Mellette Township, Spink County, and happens to be in what was called the "Northville Block" which was originally classified in the 1950's prior to the time the irrigation districts were formed. I went to the Bureau of Reclamation office in Huron and looked at the classification maps on this land. If you will look at Exhibit 2 (map 469-602-2387), this is a 1958 map of the Northville Block taken from the May 1965 Oahe Unit Report. Note, I have circled the section of land which I am referring to. You can see that the southwest quarter of the section is classified as Class 6S land, or non-irrigable. The "S" stands for a soil deficiency. Now, I would like to draw your attention to Exhibit 3 (map 469-602-3398), which is a 1968 map of the same section. You can see that the lands have been re-classified. The southwest quarter of the section, which was Class 6 land in the original map, is now classified as Class 3 land or irrigable. The soils did not change during this period of time, only the Bureau of Reclamation's need to show more irrigable acres within the irrigation district boundaries.

As you will note on this map, before the irrigation districts were formed, some landowners who were opposed to the project were allowed to petition their lands out and that is why you see this checkerboard effect. What happened was there was not enough irrigable land among those lands left remaining in the irrigation district and so the Bureau had to re-classify some of the soils to come up with 190,000 acres.

From farming the southwest quarter of this section, I was aware that the soils were very tight and had difficulty taking water. This is what caused me to originally question the Class 3 rating. As a result, at my request, soil scientists from the South Dakota State University ran tests on these soils in 1975. The Bureau of Reclamation's minimum standard for permeability for all arable land classes calls for ... "a stable intake rate of 0.20 inches of water per hour or more on a bare or cultivated surface associated with a permeability of 0.06 inches per hour or greater below the 2-foot depth." S.D.S.U. removed approximately 2 to 3 inches of topsoil before taking their tests and the result showed intake rates of 0.155 and 0.180 inches per hour, showing that the soils in this piece of land, which are classified as irrigable by the Bureau of Reclamation, do not even meet the Bureau's own standards for permeability. (See Exhibit 4)

In 1976, I ran a permeability test on the soils myself to determine how the soils would react under normal moist conditions, when the soils tend to swell up. The experiment ran from September 28 to October 13, 1976. The study was conducted under the same conditions used by technical people in determining permeability. The tests showed that over a 15 day period, the soil had an intake rate of only 0.0131 inches per hour (Exhibit 5). This is far below the recommended rate for irrigability. Photographs were taken of the test site as is shown by Exhibit 5a. One test ring was placed on the soil surface and a trench dug 4 feet below with a simulated drain tile (hole) dug about 4 feet below the soil surface under the test drain. After 15 days, no water appeared in the drain.

After these soil tests were revealed, the Bureau of Reclamation ran a number of their own tests on this parcel of land, however, the results of these tests were never made public. I contend that the permeability problems identified by my test and the tests ran by S.D.S.U. were not refuted by the Bureau.

I would like to give another example of a questionable land classification by the Bureau of Reclamation. Exhibit 6 is taken from a map (469-602-3556) completed by the Bureau of Reclamation in October of 1968. It shows the soil classification of Section 35, T. 119 N., Range 64 W. in Spink County. According to the map, there were 376.4 acres of Class 3 land in this section. Seventeen (17) testholes were made in these Class 3 lands, and 10 of these test holes showed "silty - clay" soil in the top 2 feet of soil. Exhibit 8 is a copy of table 6D taken from the 1971 "Definite Plan Report" completed by the Bureau of Reclamation. This shows that the permeability of silt-clay soils in the Lake Plain area is 0.03 inches per hour, or considerably less than the 0.06 rate normally required for irrigation.

It is clear that a number of these 376.4 acres of land should not have been classified as irrigable, Class 3. In fact, a number of the test holes show that silt-clay soils were found below the 3-foot level, making them impossible to irrigate even as Class 5 lands deep plowed. A number of these test holes show high concentrations of salts at or below the 3-foot level, which would make them poor prospects for irrigation because the high water table would cause the salts to rise to the root zone and smother the crop.

Table 8D (Exhibit 9) taken from the Definite Plan Report on Oahe Unit, 1971, shows two soil profiles taken from the Redfield Irrigation Development Farm from 1952 through 1966. One is a well-drained profile and the other is poorly drained. The chart shows what happens to the salts in the soils when water has been applied over a number of years. The chart shows that by comparing 1951, 1960, and 1966, you can see that the salt occurrence increases in the soil at various depths. Under the poorly drained profile, the salts have been rising in the soils even into the root zone level (3 feet). All 25 test holes in Section 35 (referred to in the previous Exhibit) are much worse than the soils shown as poorly drained in table 8D, and yet, those lands were classified as irrigable by the Bureau of Reclamation.

Another important area of drainage concerns the reduction of the number of miles of tile drains planned for the project. Originally, the 1960 Oahe Unit Report called for 14,000 miles of buried tile drain, which figures out roughly to about 18 miles of buried tile drain per section of land irrigated.

By 1965, the Bureau of Reclamation had reduced the buried tile drainage for the project by about 50%. As a petition carrier for organizing the Spink County Irrigation District, I attended a number of Bureau of Reclamation meetings during that time, and I asked a Bureau official at a meeting in Redfield, South Dakota, why the drains had been decreased. He said that the cost/benefit ratio had not worked out and drainage had been reduced in order to get the project authorized.

A May 1965 memorandum from the Bureau Regional Director to the Commissioner of the Bureau of Reclamation seems to confirm that statement. The memorandum states in part: (Exhibit 10)

"...A major change has been made in the ^{sub}surface drainage system. Drainage requirements on the Oahe Unit have received intensive study during the past two years. Improved field testing techniques and procedures were employed in collecting additional sub-surface drainage information. Subsequent evaluation and analysis of the data supported a reduction in ^{sub}surface drainage requirements from that outlined in the 1960 report. This resulted in a substantial reduction in the total cost of drains as well as the total investment in the project."

In testimony under oath in the U.F.F. vs. Morton case in 1976, which I testified at, Mr. Ray Winger, a soils and drainage specialist with the Bureau of Reclamation, testified that the decision to reduce the drainage and increase the distance or spacing between drains from 330 feet to over 600 feet was an "administrative decision". I would tend to agree and would state that in my opinion, the Bureau of Reclamation made a conscience decision to reduce the total amount of buried tile drainage to reduce the cost of the project so that it could be authorized knowing full well that the soils in the area could not withstand irrigation with the reduced drainage and that considerable risk would be involved. (Exhibit 11)

Much more could be said about soils and the procedure the Bureau of Reclamation used in classification. What it amounts to, is that classification of soils by the Bureau of Reclamation is used (1) to adjust total irrigable acres in the project, (2) to change repayment capabilities of the project (for example, Class 1 land pays more per acre than Class 3 and the economics of the project can be changed by re-classifying lands), and (3) soil classification can be used to avoid drainage responsibilities. In addition, the Bureau of Reclamation provides no protection for thousands of acres of Class 6 land located within the project area, from loss due to seepage or salts because of raising water table and poor permeability. There are questions about whether or not deep plowing will work on Lake Plain lands, particularly given the fact that many have clay soils below the 36 inch deep plowing depth and would be impossible to break up for drainage.

James River Problems - Oahe Unit

Another area of concern to me and many farmers in Brown and Spink Counties is the effect the project would have on flows of the James River and serious questions on whether or not the river would be capable of serving as the main drain for the project without causing substantial property damage.

I own and farm land along the James River in Spink County, and have served as Chairman of the James River Flood Control Association since 1960. This association involves farmers along the James River who are concerned about flood related problems. The James River periodically floods now under existing conditions. According to House Document 163, and other related project documents, it is my opinion that under the operation of the Oahe Project as planned, flooding on the James River would be shorter in duration, but more frequent. Once lands are flooded for any length of time at all, they are lost for that particular growing season.

A major concern related to the Oahe Project is the volume of runoff that will occur from the entire Lake Plain area as a result of the project's open drainage system, as well as the return flows that will be drained into the James River from the project along with pollution waters. The size of the James River is limited as far as the amount of flow it can handle without causing flooding. Exhibit 12 shows the depth of the channel and capacity of various locations on the river is not that great. It varies from 6 feet in Brown County to 10 feet near Ashton. The authorized Oahe Plan calls for channelization of the James River in order to provide drainage for the irrigation project. The channelization and river plans were developed by the U.S. Corps of Engineers. They claimed that they had to keep from water-logging the soils and to do that, they must keep the water table of the James River 4 feet below the bank level. The studies show that the drainage plan will not do that. The 4-foot criteria was used to design the channelization program. If you subtract the 4-foot figure from the channel depth mentioned earlier, you don't have much channel capacity left, especially when you get north of the Brown-Spink county line. There, the channel drops down to about 7 feet in depth and gets even shallower as you move north.

The present Oahe authorization provides no flood protection in my opinion, even with channelization of the river. The Bureau of Reclamation claimed some incidental flood control benefits with their channelization plan because they were shortening the total channel distance from 120 natural river miles to about 50 channeled miles.

The reason I feel the project would result in more drainage is that the plan calls for 935 miles of drains, 775 miles of which are going to be channelized. These main project drains will bring water into the James River at such a fast rate that flooding will occur on the river. The way the James River lies, once water overbanks, it floods the farmland along the river valley which is often lower than the lands immediately adjacent to the river. As a result, the flood waters cannot get back into the channel without pumping and the land is lost for that growing season.

The man-made (open) drainage to be constructed as part of the project plan will drain areas to the James River which did not drain prior to construction of the project. As a result, a general or isolated heavy rain over most or part of the project area during the irrigation season will reach the river faster and in greater quantities than under normal conditions and will aggravate and contribute to additional flooding, in my opinion.

Mr. Bryce Haskett, an engineer with the Bureau of Reclamation, told me that the project drain could handle only about 50% of their capacity as far as storage. The theory being, that you can't hold water in a drain at full capacity. The Cresbard Canal is designed to deliver 3,300 cfs (cubic feet of water per second) to the Lake Plain irrigation area. Assuming the project were under operation and a heavy rain occurred in the area, the release at Cresbard Reservoir could be shut down but there would still be water in the canals enroute to the Lake Plain area. Part of that water could be stored in the canals and delivery system, but a large portion would have to actually be dumped into the river. If this occurred during periods of high flow, flooding could occur. Page I-22 of the Environmental Impact Statement shows the design capacity of the main drains proposed in the Oahe Unit Irrigation Project. The total capacity of those drains by far exceed the capacity of the James River. (See Attachment 13) This supports the contention that a heavy rain in the area could contribute to flooding.

Another concern with regard to James River flooding is that the possibility that return flows from the Garrison Diversion Project in North Dakota may be redirected down the James River into South Dakota. In 1980, the Bureau of Reclamation and North Dakota officials developed a "All U.S. Drainage Plan" which calls for redirecting return flows of the Garrison Project down the James River in the event that differences with Canada cannot be worked out. The total amount of return flows and dilution waters that might be expected from Garrison are uncertain. The point is, there is concern that the James River would have a difficult time handling return flows, dilution water, and storm runoff from the Oahe Project. It would ~~almost~~ impossible for the river to handle both return flows from Oahe Unit and the Garrison Project, ~~that~~ ^{about 500,000 acre feet}.

Enclosed is a 1971 letter (See Exhibit 14) written by the Bureau of Reclamation to the Manager of the Northern Electric Cooperative which states in part, depending upon the final development plans, the Garrison Diversion Project in North Dakota could increase the average annual flow of the James River almost 500,000 acre feet annually.

Another concern with regard to the James River, is the quality of water that will result due to operation of the Oahe Unit. A drainage study conducted by the South Dakota State University in 1972 on the Redfield Irrigation Farm located within the project area indicated that substances found in the drainage water were exceedingly high. For example, sulfates ranged as high as 6,000 to 8,000 parts per million. The acceptable rate for drinking water is around 1,500 parts per million, and the acceptable rate for irrigation is 1,500 parts per million. According to the chemical analysis of the drain line discharge taken and the S.D.S.U. experimental farm, considerable dilution would be required in order to bring the sulfate rate down to the 250 parts per million normally recommended. For example, on tile drain BN, a ratio of 27 acre feet to 1 would be required; on drain BS, a ratio of 98 acre feet to 1 would be required; on CN, a ratio of 27 acre feet to 1 would be required; and on drain CS, a ratio of 72 acre feet to 1 would be needed. In addition, several of the other factors such as sodium, nitrate, and TDS (conductivity) exceed the recommended levels.

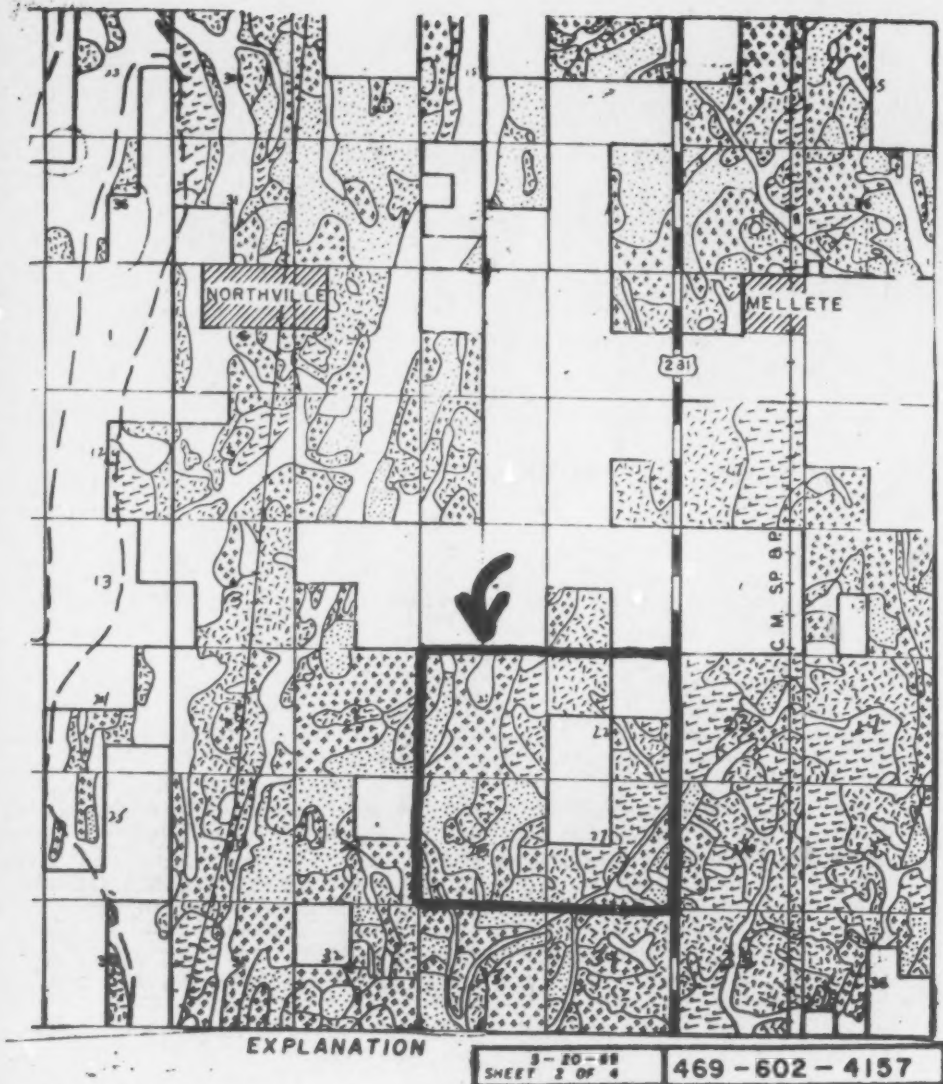
(Exhibit 15)

Also attached for your information is a letter to the regional director of the Bureau of Reclamation from Mr. John Green, of the U.S. Environmental Protection Agency dated May 1975 (Exhibit 16). The letter and the table attached show that the Bureau of Reclamation has underestimated the amount of dilution water that would likely be required for the project. If you will note, the figures shown on the chart are only for the 125,000 acre West Lake Plain area. They do not take into account return flows from the East Lake Plain, which would even worsen the situation.

The point is, as far as the James River is concerned, the combination of (1) surface drainage, (2) additionally required dilution water to reduce return flow levels, (3) limit the capacity of the James River even under channel improvement or channelization will result in the Oahe Project causing additional flooding in Brown and Spink Counties. At present, the Bureau of Reclamation has developed no specific plans for handling the James River problem. They have studied some 6 alternatives for handling James River flows and project return flows, but virtually all of these alternatives would be more expensive than channelization, none of them would provide substantially any additional flood protection, and at public meetings held by the Oahe Conservancy Sub-district in 1977, there was little local support for any of the options outlined. I also found the Bureau of Reclamation's position that the decisions on what will be done with the river would be made solely by the Governor, and the Regional Director of the Bureau. That will not be accepted locally.

In summary, it is my testimony that the U.S Congress should consider immediate deauthorization of Oahe Unit or at least those features which are planned and designed specifically to deliver water to Brown and Spink Counties. I think Senate Bill 1553 should be specifically amended so that all canals, reservoirs, delivery canals, lateral canals, channelization, and other features proposed to serve irrigation water to the West Lake Plain and the East Lake Plain in Brown and Spink Counties would no longer be authorized for construction. As one whose land and community would be affected by the project if it were constructed, I feel the contracts held by the Oahe Sub-district and the local irrigation districts should not be relinquished or released until and after the above-mentioned Oahe features have been deauthorized by Congress. Thank you for allowing me time to testify.

*Raymond J. Francis
James River Flood Control*



Arable land



Class 1



Class 2



Class 3

Potentially arable



Class 5

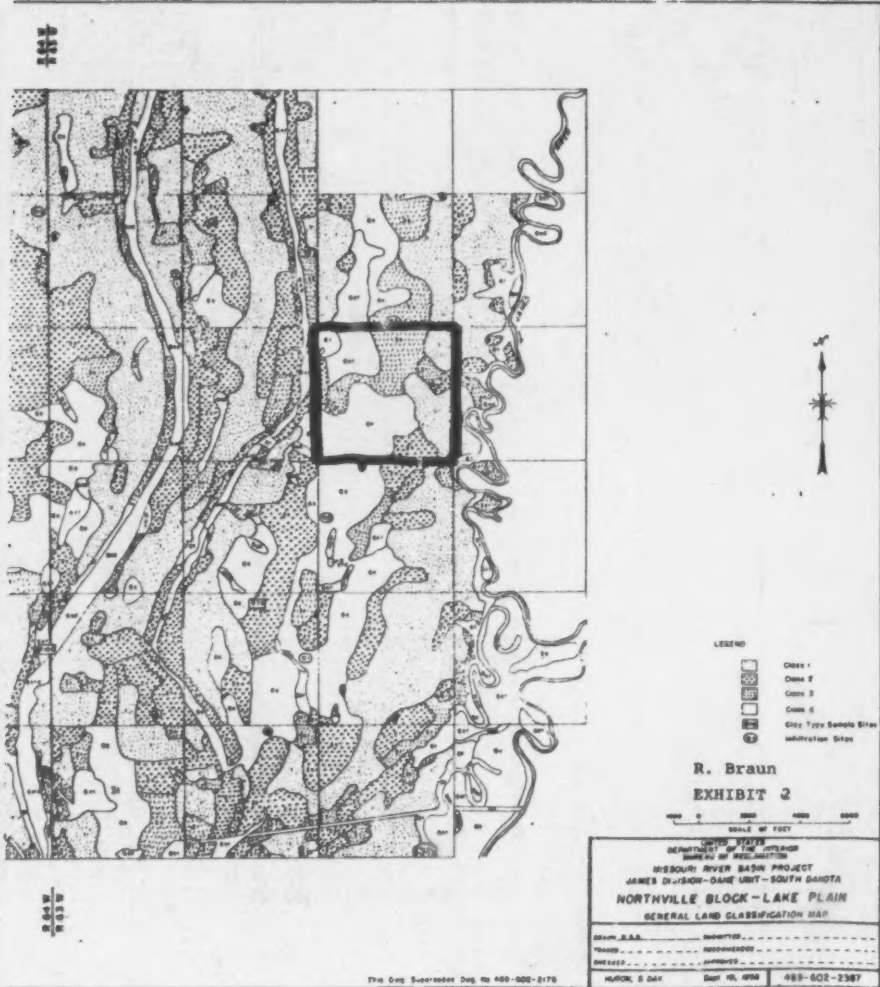
Nonarable

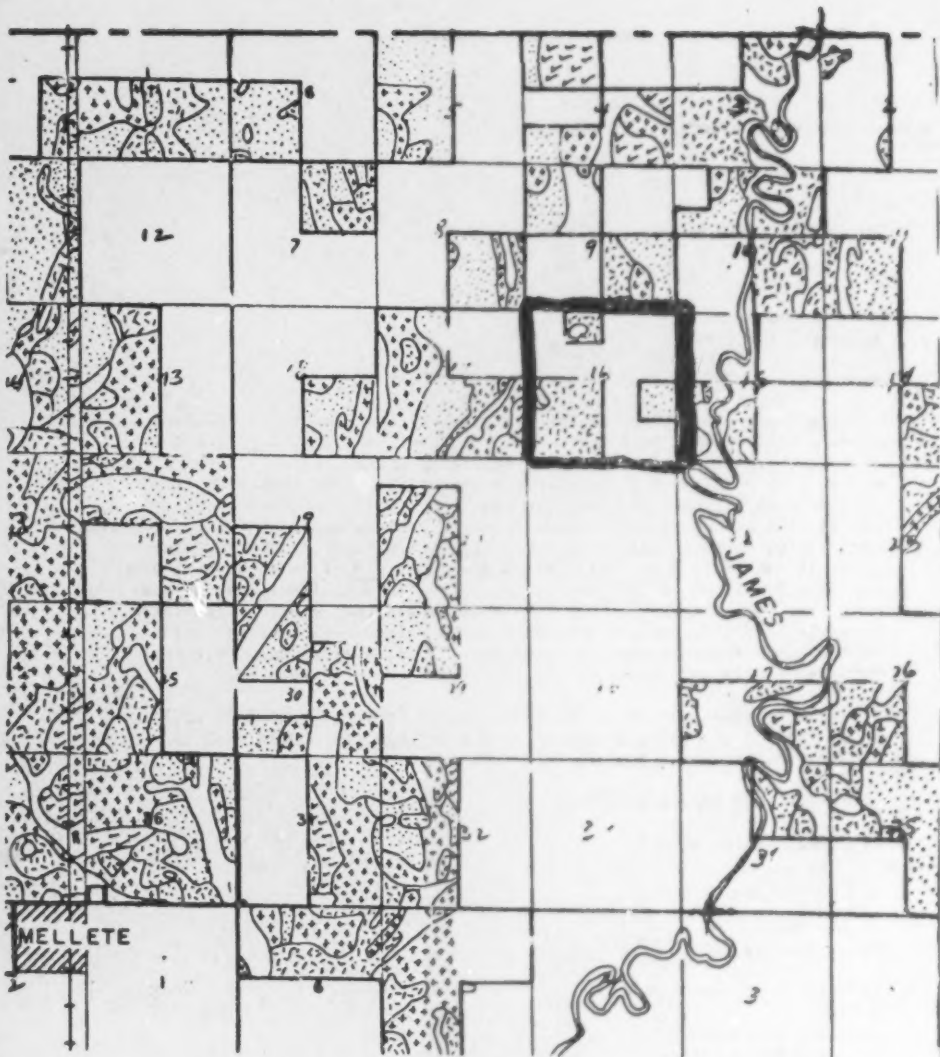


Class 6

R. Braun

EXHIBIT 1





EXPLANATION

Arable land



Class 1

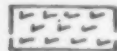


Class 2



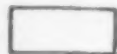
Class 3

Potentially arable



Class 5

Nonarable



Class 6

R. Braun
EXHIBIT 3

BROOKINGS, SOUTH DAKOTA 57008

WATER RESOURCES RESEARCH INSTITUTE

October 29, 1975

Mr. Raymond Braun
Mellotte, SD 57461

Dear Ray:

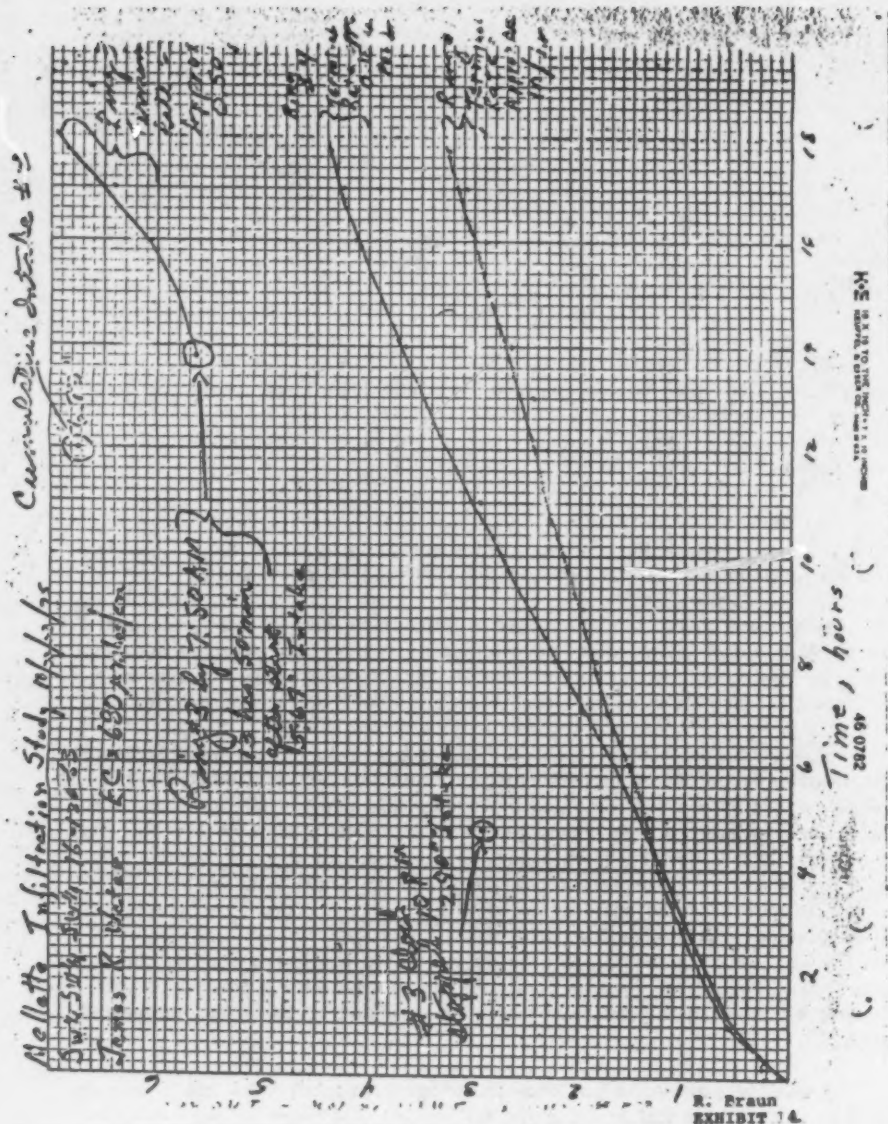
Enclosed please find a graph which gives the results of the intake study we did on your farm last week. The two lines for rings 1 and 4, although very faint, do show up on this copy and do represent something we think is a fairly real measurement of the sustained intake ability of that soil. I have plotted some points for various time increments for rings 2 and 3, which had much faster intake rates and which apparently were losing water to cracks in the soil which we did not detect. The terminal intake rate indicated by #4 was about .18 of an inch per hour and ring #1 was about .155 inches per hour. This is fairly good agreement for work of this kind and I have discussed the results with others here who have done a great deal with infiltration work on other soils in the south and east part of the state. These workers also felt that this was fairly good index of the true intake rate of that soil.

The original copies of the strip charts from the recorders will be on file in the Water Resources office in case you should wish to look at them any time you are in Brookings.

With best personal wishes,

Sincerely yours,

*L. O. Fine*L. O. Fine
Water Quality LabLOF:ckb
Enclosures
cc: Dean Dearborn
Director R. MooreR. Braun
EXHIBIT 4



October 14, 1976

COLLEGE OF AGRICULTURE AND
BIOLOGICAL SCIENCES

Office of the Dean (605) 688-4148
Dir. of Cooperative Extension 4147
Dir. of Agricultural Experiment Sta. 4149
Dir. of Resident Instruction 5133

South Dakota State University
Brookings, S D 57006

Mr. Ray Braun
Mellette
South Dakota 57461

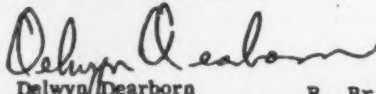
Dr. Fine and I have conferred with several other staff members since our return. We have viewed the original aerial photograph of the SW 1/4 16-120-63 used by the soil survey done by F. C. Westin in 1950 and J. V. Anderson in 1951. This photo is on file in Dr. Westin's office. You may wish to peruse it when you are in Brookings.

My purpose for visiting with staff has been to try and identify what our role could and should be relative to the acquisition of additional information related to water infiltration rates of the various lake plain soils.

It appears to me that the original soil survey map is as accurate and meaningful as any which might be made today. Even though we have talked about several possibilities, we are confident that the soils in that quarter represent a variable complex with "Aberdeen" being the most prevalent.

Due to the variability in the soils, additional data from water infiltration ring studies would be of limited value. If this was to be attempted, it would require specific site selection and a considerable number of replications at each site. In fact, it appears to me, after having visited with several staff members, that the real way to answer whether or not the quarter could be irrigated would be to develop a plot (20 acres or more) with drains similar to that proposed by the project and try to irrigate it. We have an interest in discussing such possibilities with you, if you desire. We are committed for the next growing season, but we do recognize the importance of this research. Therefore, we are willing to discuss possible alternatives for funding and staffing the proposed work with you and/or any other interested party.

I want to express to you once more our appreciation for the chance to visit your operation and to enjoy the fall colors that were so prevalent in your area. Thanks also to your wife for the fine luncheon.


Delwyn Dearborn
Dean

R. Braun
EXHIBIT 4

DD/nc

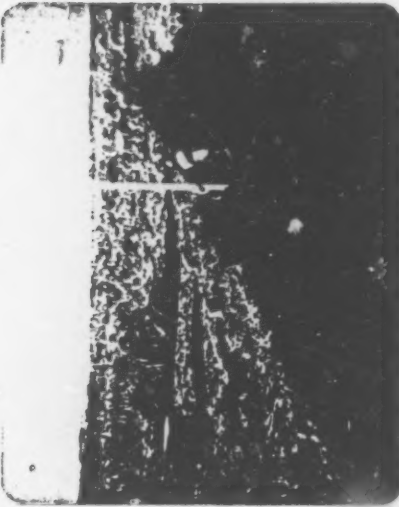
* DOUBLE RING SOIL PERMEABILITY TEST ON MOIST ABERDEEN SOILS
(SW $\frac{1}{4}$ -SW $\frac{1}{4}$ Section 16-120N-65W Mellette Township, South Dakota)

Date	Time	Reading on tape showing height of water above soil surface (inches)	
Sept. 28	11:30 am (begin)	7	
	8:00 pm	6 $\frac{1}{2}$ / ₁₆	
Sept. 29	11:45 am	6 $\frac{1}{2}$	
	5:00 pm	6 $\frac{1}{2}$	
Sept. 30	8:30 am	6 $\frac{1}{8}$	
	6:00 pm	6 $\frac{1}{16}$	
Oct. 1	11:15 am	5 $\frac{3}{4}$	
Oct. 2	8:30 am	5 $\frac{7}{16}$	
	7:00 pm	5 $\frac{5}{16}$	
Oct. 3	3:00 pm	5	
Oct. 5	9:00 am	4 $\frac{5}{16}$	
Oct 6	11:00 am	4 $\frac{1}{8}$	
Oct. 7	7:00 pm	3 $\frac{11}{16}$	
Oct. 8	4:30 pm	3 $\frac{1}{2}$	
Oct. 9	3:00 pm	3 $\frac{3}{8}$	
Oct. 10	5:00 pm	3 (293.5 hours)	<u>Intake Rate</u> 0.0136 inch/hr
Oct. 12	12:00 noon	2 $\frac{1}{2}$	
Oct. 13	4:30 pm	2 $\frac{3}{16}$ (365 hours)	0.0131 inch/hr

* In conversation, Ted Milford, Bureau of Reclamation Soil Scientist, confirmed that the Double Ring test under this design should give results to show accurate permeability rates.

R. Braun
EXHIBIT 5

Double test rings used on soil permeability
test on Sec. 16-120-R63W, Mellette Twp.,
Spink County, South Dakota 1976.



Four foot trench with test ring to left.



Test site.



Double ring test site.



Drain hole dug 4 ft. below test ring.

R. Braun
EXHIBIT 5a

LABORATORY DATA

L	2.50	45
CL	7.0	7.7
SL		

2.50 - Mmhos./cm. Total Salts
 7.7 - pH of 1-5 soil dilution
 .20 - Disturbed hydraulic conductivity
 7.0 - pH of soil paste
 10.0 - % exchangeable sodium
 45 - % clay

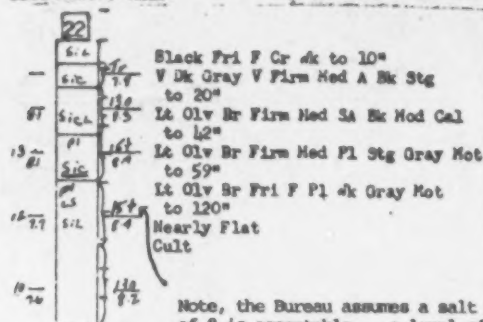
☐ 10-foot soil profile

Soil Texture
 S - sand
 Si - silt
 L - loam
 C - clay
 Sh - shale
 Cb - cobble
 Gr - gravel

469-602-3556

Test hole #22

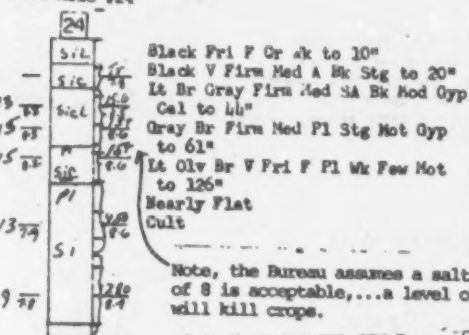
3ft. →



Note, the Bureau assumes a salt level of 8 is acceptable,...a level of 10 will kill crops.

Test hole #24

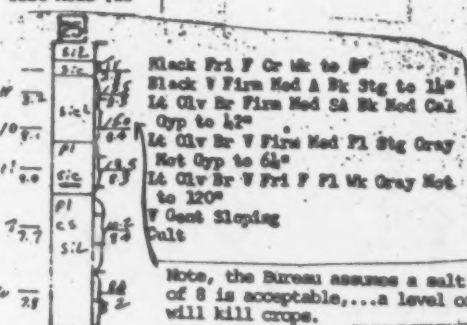
3ft. →



Note, the Bureau assumes a salt level of 8 is acceptable,...a level of 10 will kill crops.

Test hole #25

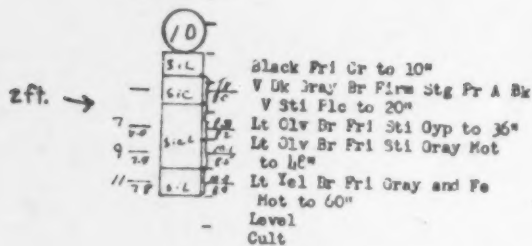
3ft. →



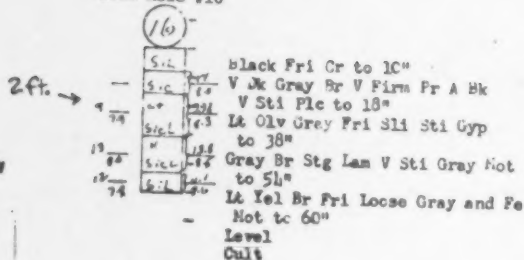
Note, the Bureau assumes a salt level of 8 is acceptable,...a level of 10 will kill crops.

H. Braun
 EXHIBIT 6

Test hole # 10

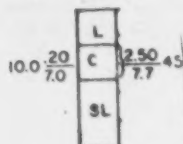


Test hole #16



2.50 - Mmhos./cm. Total Salts
 7.7 - pH of 1-5 soil dilution
 20 - Disturbed hydraulic conductivity
 7.0 - pH of soil paste
 10.0 - % exchangeable sodium
 45 - % clay

LABORATORY DATA

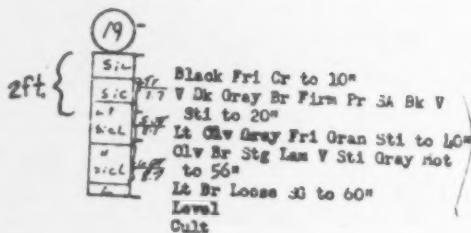


○ 3-foot soil profile

Soil Texture
 S - sand
 Si - silt
 L - loam
 C - clay
 Sh - shale
 Ch - cobble

469-602-3556

Test hole #19



R. Braun
 EXHIBIT 6

Are the soils irrigable?

Controversy continues to wax hot and heavy over the giant Oahe Irrigation Project in South Dakota, with information and misinformation advanced and disputed. The initial stage would irrigate 190,000 acres in the Redfield-Aberdeen area of northeast central South Dakota with water transported from the Missouri River some 170 miles away. This article discusses both sides of an important aspect of the project—suitability of the soils for sustained irrigation.

I wonder

by Raymond Braun*

IF THE SOILS of the Spink County and West Brown County irrigation districts are not suitable for sustained irrigation, the Oahe Irrigation Project is destined to be both an environmental disaster and an economic failure.



Although I am not a soils expert other than by experience as a farmer, I have spent considerable time reading and studying about the characteristics of the soils in the Oahe project and want to share some of my concerns.

Let's use the U. S. Bureau of Reclamation's own irrigation maps for some of this information. These maps are very detailed and break down to one-tenth of an acre on 40-acre plots. They classify the land as class 1, 2, 3, 5S and 6, with classes 1, 2,

and 3 as irrigable and having yearly repayment construction charges of \$4.50, \$2.65 and \$4.45 for each acre respectively. These costs are stated in the master contract between the U. S. and the Oahe Conservancy Subdistrict. The other classes, 5S and 6, are classified as non-irrigable.

First off, by the Bureau's own figures, about 25% of the land in the two irrigation districts (more than 73,000 acres) is classed as not irrigable. This land is class 6 for the following deficiencies: Soil, topography, drainage or a combination of these.

The Bureau admits that successful drainage of the soils is essential and has stated that it is not going to provide any tile drainage or protection for class 6 soil. What will happen to these 73,000 acres under sustained irrigation?

Class 5S is non-irrigable land, "potentially arable if plowed to a depth of 36," as shown on the Bureau's maps. There are more than 27,000 acres of class 5S land. Plowing to a depth of 3' would be expensive, and the cost would be borne by the landowner.

The success of this practice is not known at this time. The Bureau's manual definition of 5S land is "the designation as class

5S is tentative and must be changed to the proper arable class or classed non-arable prior to completion of land classification."

Land classes 1, 2 and 3 on the maps are declared as irrigable, with the following acres of the initial stage of the Oahe unit in each class: Class 1, 54,100; class 2, 69,600, and class 3, 64,100.

On the surface, this seems relatively good, except for the large amount of land the Bureau admits is non-irrigable. But the underlying fact is that there are obvious problems with the land classifications.

If you put a soils map of one section of land beside the soils map of another section, you will find the soils of one section may be classified differently from the soils of the adjoining section, even though they are separated only by a survey line.

Now, soils are classified according to physical characteristics. These soils were deposited by water following the last glacier, and the water didn't run along survey lines. On the face of them, the soils maps invite doubt and suspicion. Look for yourselves!

I would like to take 120 acres of one section that I farm and show I am concerned. The land is in Mellette Township and happens to be in what is called the Northville Block, classified in the 1950's before the two irrigation districts were formed.

Last fall, I went to the Bureau's office in Huron and looked at the classification of this land. It was classed as class 6, non-irrigable back then. The map I have now, issued by the Bureau to the owner in 1968, has the land classed as class 3, irrigable!

The characteristics of the soil haven't changed. Only the Bureau's need to find irrigation areas has changed.

R. Braun
EXHIBIT 1

I know this land is very tight and has slow permeability. So I asked South Dakota State University to run a permeability test of this soil. Dr. L. O. Fine and an assistant ran this test. The Bureau's minimum standard of permeability for all irrigable land classes is "undisturbed hydraulic conductivity of not less than 0.20" per hour in the top 2' of the soil." The test Dr. Fine ran on this Aberdeen-type soil was 0.155 and 0.180". So it does not meet the minimum standard set by the Bureau.

Less than 100' from the test site, Dr. Fine also identified Exline soils. Bulletin 439, "Soil Survey of Spink County," lists the 112 different soils in Spink County for suitability of irrigation. This bulletin rates Exline

soil as unsuitable and Aberdeen soil as poor for irrigation. So we have some questionable soils classified as irrigable.

The "Soil Survey of Spink County" has a lot to do with our situation. Farmers of Spink County had a chance to study this book before the Spink County and West Brown County irrigation districts were formed. No survey of Brown County was done.

For one reason or another, 372 landowners in Spink County removed their lands from the proposed irrigation district, in the belief that they would not be affected in the future. They also lost their vote on the formation of the Spink County District. But now they have learned they are still affected.

By the removal of this land from the two districts, a "check-board" effect of land, in and out, was formed. For example, about 50% of the land in Mellette Township is in the Spink County District. The rest is out. But all of it will be affected by the higher water tables following irrigation and by the 1,000 miles of laterals to deliver water to that land that is in the district and by the proposed 935 miles of open drains to carry excess waters away.

These drains will criss-cross thousands of acres of farmland. And nearby soils will be soaked with seepage water.

The soils of the two irrigation districts must have subsurface drains to remove the excess water and salt. This is the single most important requirement of the project. If an excess of water is not applied, the salts will not be leached from the soil but will rise to the surface and be detrimental to plant growth. Inadequately drained, the land will waterlog.

Essential elements of a root zone environment that will support plant life include aeration and salt-free soils. Without adequate soil drainage, soil fertility is lost and so is the farmer who depends on that barren land for his bread and butter.

Too many things have been assumed on "drainage" in the Oahe Irrigation Project. No one has done the necessary prolonged field testing of the subsurface drains on Aberdeen-type soils to prove that irrigation under the highly-sensitive conditions of the project area will not destroy the now favorable root zone environment—as it has in other irrigation projects in this country and other parts of the world. □

* Braun is a Spink County farmer, raises corn and grain and feeds cattle. He is chairman of the James River Flood Control Association. His farm, operated by he and his wife and eight children, is near Mellette.

R. Braun
EXHIBIT 7

SUPPORTING DATA, DEFINITE PLAN REPORT, APPENDIX D
U.S. BUREAU OF RECLAMATION

desired texture to be tested. Additional samples of the soil were taken at the site by means of a modified "Shelby" push-tube sampler to a depth of 12 feet to observe and record the structure and physical characteristics of the relatively undisturbed soil core.

A total of 285 pump-in tests were performed at 50 selected sites. A summary of the permeability rates determined by the pump-in tests is shown in table 6D.

Auger-hole tests were conducted at three sites where a water table was encountered. The results of these tests were within the range of results obtained by the pump-in test.

Table 6D.--Summary of average permeabilities by soil textures, Lake Plain

Soil texture	Permeability (inches/hour)	Number of tests	Soil texture	Permeability (inches/hour)	Number of tests
FS	7.6	6	SiCL	0.5	31
LFS	4.4	9	LtSiCL	0.5	27
LS	3.5	3	HSiL	0.4	18
FSL	2.5	18	LtSiL	0.4	12
VFSL	1.2	33	SiL	0.3	40
Loan	0.7	9	SCL Till	0.1	--
CaSi	0.7	6	CL Till	0.06	3
CaSiL	0.6	3	C	1/ 0.05	1
Si	0.5	58	SiC	<u>0.03</u>	8

1/ Estimated.

Silty-Clay

Table 8D.--Comparison of salt occurrence in soils of the Redfield
(Irrigation) Development Farm, from 1951 through 1966

Depth (inches)	Texture	Conductivity-saturation extract (millimhos per centimeter)		
		(1951)	(1960)	(1966)
----- Well-drained profile -----				
0 - 8	SIL	0.81	0.64	0.95
16	"	.95	.66	.88
26	"	.75	.84	.90
36	"	.55	1.54	.90
45	"	1.05	.68	.85
55	"	1.40	1.88	.90
67	"	1.14	2.10	1.00
77	"	1.63	1.90	1.00
87	"	1.61	1.74	1.08
96	"	1.51	2.45	1.08
108	"	1.40	3.10	1.49
120	"	1.30	4.38	2.00
----- Poorly drained profile -----				
0 - 6	SIL	0.93	3.20	5.90
12	"	.97	1.90	10.00
20	"	1.03	6.00	13.00
30	"	4.30	6.00	13.50
36	"	3.80	9.00	15.00
48	"	4.53	14.00	14.90
60	"	11.80	15.00	14.00
73	SICL	12.00	15.00	12.00
86	"	15.00	15.00	14.00

Supporting Data Definite Plan Report, Appendix D, U.S. Bureau of
Reclamation

R. Braun
EXHIBIT 9


 8917
 11410

[REDACTED]
 UNITED STATES
 DEPARTMENT OF THE INTERIOR

BUREAU OF RECLAMATION

REGIONAL OFFICE REGION 6

P. O. BOX 2553

BILLINGS, MONTANA 59101

May 1965

To: Commissioner

From: Regional Director, Billings, Montana

Subject: Report on Oahe Unit, James Division, South Dakota--Missouri River Basin Project

Transmitted herewith is my report setting forth an overall plan for developing the Oahe Unit in eastern South Dakota. The plan proposes the irrigation of 495,000 acres of land now mostly dry-farmed. Other purposes to be served by the proposed development are municipal and industrial water supply, fish and wildlife conservation, recreation, flood control, and pollution abatement.

This report is a revision of the Report on Oahe Unit, dated June 1960, which you approved on January 10, 1961, for release to State and local interests as an information report to assist the Bureau in determining desires and opinions regarding the plan of development and future courses of action. The 1960 report has been revised to accommodate comments made during the final review and after its release.

Several changes have been made in the plans for the Oahe Unit, but they have had very little effect on the physical layout of the Unit presented in the 1960 report.

The total irrigable acreage of the Oahe Unit has been increased from 482,000 acres to 495,000 acres. The Blunt Reservoir outlet, at the Highmore Canal headworks, and the Highmore Canal have been lowered 14 feet to permit a shutdown of the Oahe Pumping Plant during the period of peaking power demand in midsummer. The pumping plant and the seventh power generating unit will use the same penstock. With the pumping plant shutdown, the full generating capacity of the Oahe Powerplant will be available to meet the peaking power demand, thus increasing power revenues and thereby benefiting the Missouri River Basin Project financially.

Before start of construction on the Blunt Dam and the Highmore Canal, studies based upon then-current criteria will be made to verify the financially and economically optimum capacity of Blunt Reservoir.

R. Braun

EXHIBIT 10

These studies will determine the active capacity actually required to minimize the financial impact of Unit pumping on salable power production in the overall Missouri River Basin Project. The reservoir capacity and the allocation of costs of the modification will be adjusted accordingly.

A major change has been made in the subsurface drainage system. Drain requirements on the Oahe Unit have received intensive study during the past two years. Improved field testing techniques and procedures were employed in collecting additional subsurface drainage information. Subsequent evaluation and analysis of the data supported a reduction in subsurface drainage requirements from that outlined in the 1960 report. This resulted in a substantial reduction in the total costs of the drains as well as the total investment in the project.

Other changes included minor modifications in the canal and lateral systems in line with recent irrigation developments, and a reanalysis was made of noncontract costs associated with the Oahe Unit cost estimate.

All of these factors resulted in an overall reduction in the total project costs from those shown in the 1960 report. However, costs of some features were increased as a result of changes in prices since the estimate for the 1960 report was prepared. The total project costs shown in the June 1960 report were \$514,153,000; in the present report they are \$394,085,000. The allocated irrigation investment per acre based on these costs shows a reduction from \$1,010 to \$733. The allocated irrigation investment, including assigned costs, was \$1,312 per acre in the 1960 report and is \$988 per acre in the present report.

New criteria for evaluating benefits have been used, including more realistic assumptions as to farm size, improved management, and other factors, resulting in an increase of benefits from irrigation. Other factors of the previous studies have been updated. These changes combine to increase the benefit-cost ratio from 1.46 to 2.8.

Climatic and streamflow data have not been updated, inasmuch as the results would be changed very little by the addition of the data for the later years.

This report represents the results of 16 years of intensive investigations and the consideration of many alternatives. Cost estimates for principal features to be constructed first are of feasibility grade. Estimates for other features are based on reasonably firm data. Classification of land has been made by semidetained standards, confirmed by detailed classification of five sample areas representing about 10 percent of the land. Detailed land classification and topographic mapping have been initiated on areas delineated by recently formed irrigation districts.

Portion of Testimony Taken from trial transcript,
U.F.P vs Morton, 1976

The Bureau's final environmental statement of 1973 confirms without further explanation that the water table will be allowed to rise to 3 feet (9), and that drainage tile will be spaced at an average distance of 620 feet which is almost double the spacing which was repeated by the Bureau several times.

Upon questioning regarding the decision to allow the water table to change, the Bureau's Chief of Drainage gave the following testimony in January 1976 under oath (10):

QUESTION: At some time apparently, there was a decision to change the distance between the surface and water table from 4 feet to 3 feet, when was that?

BUREAU: That decision was made after 1955.

QUESTION: What considerations went into the making of that change?

BUREAU: I think that decision was made in the Billing, office and the Huron office.

QUESTION: What's your opinion regarding that decision?

BUREAU: It was an administrative decision and we abided by it.

QUESTION: It does increase the risk, doesn't it?

BUREAU: As long it was an administrative decision, we abided by it.

QUESTION: Well, can you answer my question whether it does increase the risk?

BUREAU: No, I am not going to answer your question. If the boss says do something, we do it.

QUESTION: Did you concur in his decision that it was a good engineering decision?

BUREAU: When the boss makes the decision, I concur.

Within the Spink County and West Brown Irrigation Districts there are about 73,000 acres of Class 6 lands which are not irrigable, and which are mingled among the class 1, 2, and 3 lands which will be irrigated. The Bureau's Chief of Drainage gave the following answers under oath:

QUESTION: What's the Bureau plan for the drainage protection of Class 6 lands to prevent waterlogging and salting?

BUREAU: Class 6 lands are in no way protected or no drains are designed for Class 6 lands. That's the law.

QUESTION: How do you protect them?

BUREAU: They are not protected. They are protected incidentally with the drain that we put in the pay class land, but if they are Class 6 land and seep up, there is no way that we can protect them.

QUESTION: There is a risk of that, isn't there?

BUREAU: Probably.

QUESTION: You don't make a drain around the perimeter of --

BUREAU: We don't protect Class 6 land.

What kind of protection had the Bureau planned for those farmer's lands which were petitioned out of the project?

QUESTION: What about where you have lateral delivery canals crossing non-project lands, what kind of protection would you have ther to prohibit the escape of water?

B. Brauns 11
EXHIBIT

DEPTH OF JAMES RIVER CHANNEL AT SELECTED LOCATIONS IN LAKE PLAINS AREA*

Location	Elevation of Channel Bottom 1/	Elevation of Flood Plain 1/	Height of Flood Plain from Channel Bottom
Ashton	1245	1254-1256	10+ ft
Turton	1250	1258-1260	10 ft
2 mi. S. of Hwy #20	1251-1252	1260-1262	10 ft
Armadale Rd.	1255	1265	10 ft
$\frac{1}{2}$ mile W. of Spink-Brown Line	1258	1268-1269	10+ ft
Rondell	1259	1269-1270	10+ ft
1 mile S. from Warner-Stratford Rd.	1262-1263	1269-1270	7 ft
Hanson Grd.	1265	1272	7 ft
1 mile W. Hwy #12	1268	1274	6 ft

1/ Data taken from Bureau of Reclamation maps in Huron Office provided by
Rick Benson early Oct. 1976

R. Braun
EXHIBIT 1
12

Description of the Proposal

The names of the main outlet drains and their approximate characteristics will be as follows:

<u>Name</u>	Design capacity (c.f.s.)	Estimated lengths			Estimated Maximum
		Excavated (miles)	Natural (miles)	Total (miles)	Return Flow (c.f.s.)
<u>West Lake Plain area</u>					
Crandon Drain	249	1½	—	1½	20
Beefield Drain	144	6	—	6	20
Snake Creek Drain	980	32	30	62	130
Ashton Drain	325	20	—	20	20
Duxbury Drain	180	8	—	8	10
Moccasin Creek Drain	539	19	53	72	80
Elm River Drain	226	—	13	13	10
Subtotal		(99)	(96)	(195)	
<u>East Lake Plain area</u>					
Timber Creek Drain	936	—	23	23	20
Dry Run Drain	710	22	34	56	50
Frankfort Drain	57	6	—	6	10
Gallup Drain	66	5	—	5	10
Mad Creek Drain	1,145	1	7	8	10
Subtotal		(34)	(64)	(98)	
Total		133	160	293	

The locations of the main outlet drains are shown on drawing 169-602-4459.

Construction of the main outlet drains will involve both the existing natural drainage channels and excavation of new open drains to extend upstream through existing topographical low areas. Some natural drainage channel meanders will have to be "cut off" or straightened. These drains will have base widths ranging from 4 feet to 60 feet. Side slopes will be 1½:1 or flatter, dependent upon characteristics of material being excavated. Provisions will be made for an operating road, approximately 14 feet wide, on each side of all drains having a top width of 40 feet or more. Operating roads will be constructed on one side only for those main outlet drains having less than 40-foot top width.

R. Braun
EXHIBIT 13



IN REPLY
REFER TO: 730

UNITED STATES
DEPARTMENT OF THE INTERIOR

BUREAU OF RECLAMATION

MISSOURI-SOURIS PROJECTS OFFICE

P. O. BOX 1017

BISMARCK, NORTH DAKOTA 58501

FEB 11 1971

ALB	
MA	
NEW	
REC'D	
FEB 2 1971	
FILED	
1118	

Mr. J. U. Haugen, Manager
Northern Electric Cooperative, Inc.
P. O. Box 1119
Aberdeen, South Dakota 57401

Dear Mr. Haugen:

The flow figures quoted in your letter of January 11, 1971, represent approximations of conditions in the James River at present and the flow that may be expected after development of the ultimate stage of the Garrison Diversion Unit.

Present plans for the initial stage of the Garrison Diversion Unit include the delivery of irrigation water to the Oakes Area and LaMoore Section in the James River Basin. The James River will be used to convey the project water from Jamestown Reservoir to pumping plants that will lift the water to the irrigable lands. Approximately 120,000 acre-feet of water will be delivered to the two areas annually for the irrigation of 59,300 acres.

Return flows from the irrigation of initial stage Garrison Diversion Unit lands in North Dakota will contribute about 38,300 acre-feet of water each year to the James River, but approximately 34,700 acre-feet of this water will be pumped from the river for reuse. The net gain of flow by the James River from Garrison Diversion Unit return flows will be 3,600 acre-feet. Approximately one-half of this water will accrue to the river in North Dakota and one-half will enter the river in South Dakota. The annual flow of the James River at the North Dakota-South Dakota boundary will increase by only 1,800 acre-feet with the development of the initial stage of the Unit.

The authorizing legislation for the Garrison Diversion Unit contains the following statement: "The Secretary shall give consideration to returning to the Missouri River to the fullest extent practicable such of the return flows as are not required for beneficial purposes." Although plans for development of the ultimate stage of the Unit are not definite and are subject to many changes before a final plan is selected, there are two tentative development options that will affect

R. Braun
EXHIBIT 14

flows of the James River. The first of these options would occur if enough of the return flows in the Souris and Sheyenne Rivers could be beneficially used so that it would be impracticable for their return to the Missouri River via the James River. James River stream-flow would be approximately 129,000 acre-feet per year below Crow Creek under these conditions. The other option would occur if there was sufficient return flow available in the Souris and Sheyenne Rivers to be practicably exported to the Missouri River. Flows of the James River could increase to about 535,000 acre-feet per year under this condition.

The following is a summary of the information requested in your letter of January 11:

1. Average annual flow of James River below Crow Creek, South Dakota 39,500 ac.-ft.
2. Net annual return flow to James River from initial stage Garrison Diversion Unit 3,600 ac.-ft.
3. Average annual flow of James River below Crow Creek with completion of initial stage Garrison Diversion Unit 43,100 ac.-ft.
4. Potential Sheyenne River imports to James River under ultimate stage Garrison Diversion Unit 406,000 ac.-ft.
5. Average annual flow of James River below Crow Creek with completion of ultimate stage Garrison Diversion Unit and no Sheyenne River imports 129,000 ac.-ft.
6. Average annual flow of James River below Crow Creek with completion of ultimate stage Garrison Diversion Unit and Sheyenne River imports 535,000 ac.-ft.
7. Historic average annual flow of James River at Huron, South Dakota 124,200 ac.-ft.

If we may be of further help in your studies of the James River and its development, please feel free to contact me.

Sincerely yours,

Theodore E. Mann

Theodore E. Mann
Project Manager

cc:
Regional Director
Attention: 6-730

R. Braun
EXHIBIT 14

(this field has been irrigated for about 20 years, drains are at 8 feet)

Drainage Water Quality

D.W. DeBoer

A five acre area immediately north of the farmstead is partially drained by subsurface drain lines. The discharge from these drain lines was periodically sampled for water quality analyses during 1972. Table 12 gives detailed chemical analyses of water samples collected from four drain lines and the James River on September 5, 1972. These analyses are representative of the 1972 water quality analyses. Figure 4 shows the areas drained by the individual drain lines. The location is significant because the two eastern lines have a lower water quality than the west lines. Chemical analyses of the soil saturation extracts verify this difference.

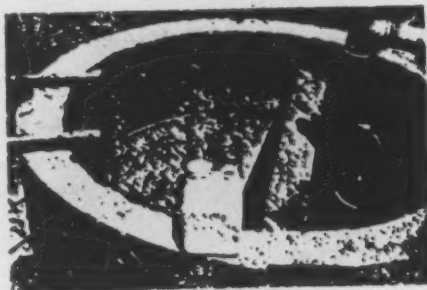
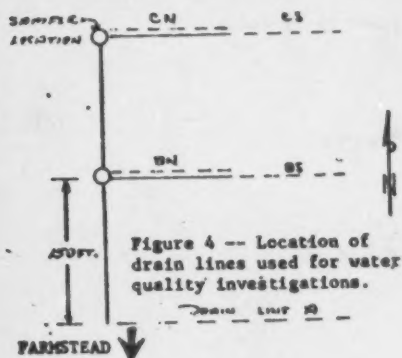
Table 12. Chemical Analyses of Drain Line Discharges and the James River Near the Center Taken September 5, 1972

AV 48367D

1. - \$500
P. 35
H. 167

(4761)

Measurement	EW	BS	CN	CS	James River
Calcium (Ca), ppm	356	380	332	456	75
Magnesium (Mg), ppm	338	881	343	634	31
Sodium (Na), ppm	450	2280	510	1830	102
Potassium (K), ppm	14	29	14	26	22
Sulfate (SO ₄), ppm	2420	8125	2450	6050	185
Nitrate (N), ppm	10.25	9.10	14.5	12.5	0.19
Chloride (Cl), ppm	160	225	202	315	44
Alkalinity (MD), ppm (as CaCO ₃)	500	462	528	562	310
(PP), ppm	12	28	20	34	0
TDS					
Conductivity, umho/cm	4123	9425	4653	7599	1202
SAR	4.10	14.69	4.69	13.02	2.50
Sodium, % of cations	29.90	51.88	32.97	51.34	39.33
pH	8.16	8.31	8.12	8.38	8.08
Total Cations, meq/l	65.48	191.16	67.27	155.05	11.29
Total Anions, meq/l	65.55	185.19	68.23	146.79	11.29



Water samples for water quality research are taken from this sump.

Oahe Unit, Missouri River Basin Project, South Dakota 135

total 21,600 acre-feet; annual depletion of the Missouri River at Big Bend Dam will therefore be 798,300 acre-feet.

The return flows from the Oahe section of the Garrison diversion unit and from water users in the lake plain of Oahe unit will increase the flow in James River by an average of 601,200 acre-feet annually. However, about 422,000 acre-feet of these return flows and the natural flows of James River will be diverted from the river for municipalities, for fish and wildlife areas, and for irrigation of the east lake plain. The net effect will be to increase the flow of James River by 179,200 acre-feet annually. This increase will be returned to the Missouri River at Yankton below Gavins Point Dam.

The average annual net depletion of the Missouri River is the difference between 798,300 acre-feet and 179,200 acre-feet, amounting to 619,100 acre-feet, which is only 2.6 percent of the average annual flow of the Missouri River at Sioux City for the period 1898-1958.

QUALITY OF WATER

Water supplies for irrigation should be low in total dissolved solids, and should not contain high proportions of sodium, bicarbonate, boron, chlorides, or other troublesome chemical ions. The four sources of water supply for Oahe unit are satisfactory or are expected to be satisfactory with respect to individual ion content and will not be a problem in this regard, even in the concentrated drain waters. The controlling factor will be the buildup of total dissolved solids (TDS).

The four water sources have, or are expected to have, the following concentrations of total dissolved solids under average conditions:

	TDS (p.p.m.) ¹
Oahe Reservoir.....	543
James River natural flow.....	543
Return flow from Garrison diversion unit.....	1,200
Return flow from Lake Plain -	
West lake plain.....	1,171
East lake plain.....	2,500
Supply system seepage.....	724

¹ Parts per million (p.p.m.) of total dissolved solids.

² Estimated average salinity. Quality is variable, depending upon quality of water applied to east lake plain which, in turn, varies proportionately with the various other sources going into Byron Reservoir. Extremes are from 1,000 to 3,500 p.p.m.

The water supply for the Missouri slope and the west lake plain will be Missouri River water from Oahe Reservoir and will be satisfactory in every way for irrigation.

The water supply for the east lake plain will be composed of return flows from North-Dakota irrigation, return flows from the west lake plain, return flows from the east lake plain, seepage from the supply system, natural flows of James River, and water brought directly from Oahe Reservoir. The proportions of these various components, their quality, and the limitations of water quality as related to the soil of the east lake plain have been carefully considered.

To successfully irrigate the lake plain soils under a sustained agricultural program will require water with a TDS concentration averaging not more than 1,280 p.p.m. over a year's time. The TDS in any 1 month's water application should not exceed 1,600 p.p.m.

In the interest of conservation of water and of economy of operation, it would be desirable to use as much of the return flows as possible.

Oahe Board
P. O. Box 1985
Aberdeen, South Dakota 57401

Gentlemen:

The following is additional information the Chairman of the Oahe Board asked that I make available for the record of the James River Hearing.

According to chemical analyses of drain line discharges taken at the S.D.S.U. Experimental Farm the following dilution for sulfate would be required according to my calculations:

Tile line	BN	BS	CN	CS
Sulfate per one acre foot	2420 PPM	8125 PPM	2450 PPM	6050 PPM
Ratio to dilute to 250 PPM	27.1 acre ft.	98.4 acre ft.	27.5 acre ft.	72.5 acre ft.

Respectively submitted,

RB
Ray Braun

Typed for the record as requested by Mr. Braun.

R. Braun
EXHIBIT 15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
1880 LINCOLN STREET
DENVER COLORADO 80202

Ref: SW-EZ

MAY 9 1975

Mr. Robert McPhail
Regional Director
Region VI, U.S. Bureau of Reclamation
Federal Building
Billings, Montana

Dear Mr. McPhail:

I am writing to you in regard to the Oahe Unit Irrigation Project. In recent months, I have taken the liberty of mailing you copies of correspondence dealing with Oahe and EPA replies where I believe the USBR interests may be involved. I am raising a number of issues that have surfaced in these letters, because they can probably best be answered by your agency.

I would first of all like to know the present status of, and future directions for the James River Study Team. The last meeting was held on November 25th and 26th of last year. Since that time, EPA has had no further communications regarding Study Team efforts. A number of important issues were raised at this meeting that seemed to require further resolution and could have profound effects on the presently proposed project. Specifically the following items were raised:

1. Preliminary water quality studies indicated that West Lake Plain leachate return flows would make irrigation of the East Lake Plain doubtful with recycled water. These modeling figures also indicated that a substantial violation of drinking water standards would occur at Huron.
2. The USFWS indicated that the proposed wildlife mitigation area plans were undergoing reassessment, and;
3. There were still studies to be performed regarding irrigation return flow and flood routings through the James River channel to assess the need for channelization.

I believe that progress has been made in developing analyses for these environmental problems, and that every effort should be made to complete these studies as quickly as possible. EPA stands willing to continue to assist in finalizing this study effort.

A second issue has been brought to my attention concerning further proposed construction on the Oahe project, notably the Pierre Canal.

R. Braun
EXHIBIT 16

This issue also surfaced at the November 25th meeting. I would like to be informed of the proposed scheduling for further construction beyond that already in progress for the Oahe Pumping plant.

It was Administrator Train's contention in his April 19, 1974 letter, that "critical environmental issues which may affect the overall scope of this project should be resolved before the decision is made to proceed with major project features...(such as) ...canals, reservoirs, and drainage works..." The water quality issue in particular, appears to have ramifications that could require some important changes in the project design.

One query in particular to EPA needs the benefit of your agency position. Mr. John Keyes, regional hydrologist for Region VI, stated at the November 26th meeting that "a red-flag" had raised with regard to irrigation of the entire East Lake Plain. A brief review by my staff indicated that the combined seepage, deep percolation, and waste flows to the James River from the West Lake Plain development only, approached water quality concentrations that would make recycling for further irrigation use to the East Lake Plain infeasible. The West Lake Plain return flow concentrations neared the limits that the USBR itself had set for maximum allowable TDS concentrations of applied irrigation water. Needless to say, deletion of one-third of the irrigation lands or larger flows for one-pass irrigation will affect the entire project system. I would request that you provide me with a more exact interpretation of this situation regarding water quality and the East Lake Plain irrigation. I realize the water quality modeling report is incomplete and still in progress concerning this study. I would appreciate if you could indicate approximately when you expect this report to be completed.

The Kerr Environmental Research Center has provided our regional office an evaluation of the water quality modeling information that was presented at the November 26th meeting. I would like to share with you some of their conclusions in the hope that it may be of use to your staff in preparation of its report.

The information on water quality modeling at the November meeting gave an estimate of overall water quality reaching the James River from the Oahe project for the West Lake Plain development at the 25th year. The extensive mathematical modeling effort of the deep percolation return flows showed a concentration of 2992 ppm as TDS. The remaining flows were seepage or surface wastes that combined with the deep percolation water to give an overall annual TDS quality of 1211 ppm entering the James River. These levels of TDS water quality are a problem in themselves. However, the situation may be considerably worse than presently estimated.

R. Braun
EXHIBIT 126

It must be pointed out in this water quality analysis presented by the USBR that deep-percolation water accounts for only 26% of the total return flow to the river, with seepage and surface wastes accounting for the remaining 74%. The TDS concentration estimate for deep percolation is the most reliable, since it is based on a well-developed modeling program. The estimate for seepage and surface waste however is more tentative, and a change in the concentrations of farm or canal seepage will have a drastic effect on the overall water quality entering the river.

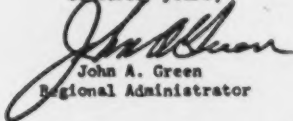
Attached to this letter as TAB A, are two higher TDS estimates by EPA for the farm and main canal seepage, and the concomitant water quality in comparison to the USBR estimates. Part of the logic of the higher TDS farm seepage estimates is that this water will be leaching through similar soil strata as the deep percolation water with the primary difference being the evapo-transpiration factor. Present shallow groundwater data for TDS in the Oahe Irrigation area appears to be quite close to that predicted in the theoretical deep-percolation study.

Since EPA is primarily concerned with meeting and maintaining water quality standards, an estimate is also made in TAB A of the amount of dilution water that would be required to meet the Muron drinking water quality standards and the 1500 ppm maximum standard for irrigation in the South Dakota water quality laws for the three estimates of seepage concentrations.

I realize that all of these present estimates are tentative. Factors such as where drains will intersect seepage flows, travel distances, and soils permeability need to be discussed. I would hope that your staff could present its rationale for the present USBR estimates on seepage for our review. If necessary, members of my staff would be available to participate in a meeting on the subject. I do think that this factor is extremely critical to the overall water quality modeling study, and needs to be resolved as quickly as possible.

I hope that these problems can be satisfactorily resolved, and the Region VIII EPA office remains committed to resolving the environmental issues facing the Oahe project as soon as possible.

Sincerely yours,



John A. Green
Regional Administrator

R. Braun
EXHIBIT 16

TAB A

Subsystem 1/	Flow Volume (AF) 1/	Water Quality (Mg/l)		Flow (AF) Required to Meet: Drinking Water Irrigation	
		USBRI/	EPA (Low) 3/	EPA (High) 4/	At Huron-1000ppm Downstream-500
Deep Percolation Through Soil Profile	45,924	2992	2992	2992	
Seepage From Farm System, Lateral and West Canal	50,600	605	1500	2992	
Surface Wastes	36,210	615	615	615	
Seepage From Reservoirs and Main Canals	42,205	540	750	1000	
Combined Inflows to James River	177,940 174,9392/	1211 12002/	1529	2018	

Dilution Flows
Required On:

• USBR Estimate
EPA (Low) Estimate
EPA (High) Estimate

5/
53,600 5/
95,300 5/
285,500 5/
0 5/
9900 5/
63,000 5/

- 1/ Data From Handout At Citizen's Meeting 11/26/74
- 2/ Recomputed On Apparent Mistake In USBR Data
- 3/ Computed From "Low Range" Of Likely Concentrations
- 4/ Computed From "High Range" Of Likely Concentrations
- 5/ Region VIII Estimates Based On Monthly Calculations Of James River Flow
In "Average Year", 1962-1963; TDS Concentrations Based on Existing Monthly Data;
Dilution Flows Using Missouri River Water At 450ppm.

R. Braun
EXHIBIT 16

Senator MURKOWSKI. Thank you very much, Mr. Braun. I assure you your entire testimony will be in the record.

Mr. James Young?

STATEMENT OF JAMES YOUNG, CHAIRMAN, JAMES RIVER WATERSHED DISTRICT BOARD OF MANAGERS, WARNER, S. DAK.

Mr. YOUNG. Mr. Chairman and members of the Senate subcommittee, my name is James Young. I am chairman of the James River Watershed District Board of Managers and a farmer in Brown County. I am also a member of the James River Engineering Management Board.

In June 1981, following extensive planning and a petition drive lasting over 1 year in which nearly 80 percent of the landowners representing 70 percent of the land indicated their approval of the watershed by signing the petition; the James River Watershed District was officially formed at a hearing conducted by the 3 area soil district comprising nearly 60,000 acres of James River bottomland with over 300 landowners.

The watershed district stretches from the southern boundary of Sand Lake National Wildlife Refuge to near Redfield, S. Dak.

Powers of the James River Watershed District include the power of eminent domain, the power to levy taxes and other assessments on watershed landowners, the power to sue and be sued, the power to borrow money, to issue certificates, warrants and bonds, and the power to perform all acts as specified by law as being necessary and proper for carrying out and exercising the power vested in the district.

A board of managers consisting of five individuals is responsible for representing and caretaking the watershed district's interests and needs. The James River Watershed District is a significant legal entity. We are a locally based organization that must be dealt with any time plans are proposed that pertain to the river and land within our district.

As authorized by the U.S. Congress, the Oahe project identifies many miles of channelization planned for the upper reaches of the James River in South Dakota. While we do believe the channel of the James River is in need of improvement and have begun work on our own plans aimed at cleaning the river channel, we are opposed to the Oahe project proposals, or any other proposals, that call for channelization of the river.

The watershed district board of managers is developing a general improvement plan for the James River within our boundaries. Such measures as log jam, obstruction and siltation removal and the clearing of dead trees from river banks are included in our plan as well as our hope that a minimum flow can be realized for the James River.

When contrasted with the Bureau of Reclamation's plans, ours are less drastic methods of dealing with a river as fragile as the James River, but we know our plans are more consistent with the desires of the river community.

In addition, at 1977 hearings on the Oahe project, Bureau of Reclamation spokesmen indicated that any decision regarding the James River and its role in the Oahe project would be made by the Bureau of Reclamation.

The board of managers of the James River Watershed District favors more local input, including the watershed district, into any decisions or proposed projects that affect the James River. The authorized plan for the Oahe project calling for many miles of channelization of the James River is a good example where local feelings and needs were ignored.

Farmers and landowners living along the upper reaches of the James River in South Dakota are nearly unanimously opposed to the channelization the Oahe project proposes, yet channelization remained an integral part of the project.

In our watershed district, any plans or assessments must be approved by at least 60 percent of the landowners before being enacted. This is the same kind of local support and control we feel is essential if any project is going to succeed.

This also deals a little with the Garrison project. Thank you, Mr. Chairman.

Senator MURKOWSKI. Thank you very much, Mr. Young.

We will proceed with George Schuller. And again, I would urge those witnesses, please summarize your remarks.

STATEMENT OF GEORGE SCHULLER, DIRECTOR, LOWER CROW CREEK WATERSHED, CLAREMONT, S. DAK.

Mr. SCHULLER. Mr. Chairman, Senator Abdnor, I am George Schuller, director of the Lower Crow Creek watershed in northeast Brown County.

We feel that a large share of the cost of all water projects in South Dakota should be borne by the people benefited. Too many times projects like Oahe are promoted by chambers of commerce, out-of-State bank holding companies and people in the business community who look only at the Federal dollars coming in. Where will they be when the payback comes?

The United Family Farmers have led the fight to deauthorize the Oahe irrigation project. It ought to be everyone's business to protect the well-being of the Federal Government and not build costly unworkable projects just to have Federal dollars coming into the State.

The cost of building the Oahe irrigation project today is approaching \$1 billion, and that's not counting the true cost. The true cost is when the interest is compounded at today's 15 to 20 percent during construction and the development years.

We are faced with large surpluses of farm products and depressed farm prices. Why spend billions to produce more? We farmers could produce much more than we do by better management of our farms, if it only paid. Mother Nature has been much better to us in South Dakota than we realize. We know it is a semiarid country; we need to plan accordingly.

We are quick to holler disaster in South Dakota. We have been spoiled by handouts. There are all kinds of opportunities in South Dakota, at the bottom. It's a good place to start.

I am in favor of development of water projects close to the Missouri River, like the Shéehan irrigation project, which are on a private enterprise basis. He is not putting a burden on the taxpayers and a government that is already in deep trouble.

Most of the farmers in the James River Valley don't want the Oahe irrigation project where we could lose our farms trying to use the water from the Missouri River. I think a few smaller projects in South Dakota might work—the WEB pipeline, for example, which would supply domestic water to thousands of people at a cost less than they are now paying to keep up their own wells and water systems.

It is a project that is needed and will work and improve the environment, whereas the Oahe project is not needed to create burdensome surpluses of farm commodities.

I guess the word "progress" means different things to different people. To me, you can't bond and mortgage our future generations and call it "progress."

Remember, the poor don't benefit from the high interest rates on Government bonds. They don't have any.

It's been brought up so many times today that the Federal Government owes us for a past commitment that was made in different times. I am not sure that that's quite right. It would be like asking your elderly mother to fulfill a promise she might have made years ago.

Thank you.

[Attachments to Mr. Schuller's statement follow:]

MAILGRAM SERVICE CENTER
MIDDLETOWN, VA. 22645



Mailgram



4-074921 8170002 06/12/80 ICE 12PM17 CSD BISA
1 602945311 MGN TOWN CLAREMONT SD 06-12 12 54P EST

GEORGE SCHULLER
CLAREMONT SD 57432

6-18-80

THIS MAILGRAM IS A CONFIRMATION COPY OF THE FOLLOWING MESSAGE:

602945311 MGN TOWN CLAREMONT SD 07 06-12 12 54P EST
ZIP
SENATOR LARRY PRESSLER
DIRTYSEN SENATE OFFICE BLDG
WASHINGTON DC 20510

URGENT PLEASE SPEAK UP AND VILL 2.7 MILLION DOLLAR GARRISON FUNDING
AMENDMENT THAT NORTH DAKOTA IS TRYING TO SNEAK THROUGH CONGRESS.
PROTECT SOUTH DAKOTA INTEREST, LANDOWNERS AND RIGHT TO INPUT. WE HAVE
POSITION OPPOSING FUNDING UNTIL SOUTH DAKOTA HAS PROTECTION. STOP IN
COMMITTEE OR WILL ON THE FLOOR. REPORT BACK TO US WHAT YOU DID TO
PROTECT OUR LAND AND STATE.
SIGNED RUFERT PINGER, JESSIE, ROBERT JENSEN, GROTON, LAVERNE SWANSON,
CLAREMONT, GEORGE SCHULLER, CLAREMONT, AND RICHARD DALY, COLUMBIA,
SOUTH DAKOTA

DIRECTORS OF LOWER GROW CREEK WATERSHED DISTRICT

1259 EST

MGPCCMP MGN

OAHB SETTLEMENT RESOLUTION

This was passed unanimously by members and directors of the Lower Crow Creek Watershed District at their annual meeting on April 7, 1981. Copies to be forwarded to the Governor, South Dakota Secretary of Natural Resources, Congressional Delegation, United States Department of Interior and Oahe Sub-District.

WHEREAS, the West Brown Irrigation District, the Spink County Irrigation District and the Oahe Conservancy Sub-District Board have asked for deauthorization of the Oahe Project; and

WHEREAS, the South Dakota Congressional Delegation negotiated an agreement during the summer of 1980 which would allow for deauthorization of the Oahe Project; and

WHEREAS, the Crow Creek Watershed project is named, along with other water projects, as a possible part of this settlement process; and

WHEREAS, the agreement calls for a settlement to be reached by September 30, 1981, and adoption of deauthorization legislation for the Oahe Project,

THEREFORE BE IT RESOLVED, that the Lower Crow Creek Watershed District go on record in favor of Oahe deauthorization so that water projects that enjoy local support will be moved forward during the settlement process.

Lower Crow Creek Watershed District
Board of Directors

Hubert Dinger, Chairman

Roger Delmiller
Secretary

GARRISON RESOLUTION

This was passed unanimously by members of the Lower Crow Creek Watershed District at their annual meeting on April 8, 1980. Copies to be forwarded to the Governor, South Dakota Secretary of Natural Resources, Congressional Delegation, United States Department of Interior and Oahe Sub-District.

WHEREAS the Canadian Government has determined that the effects of the return flows of the Garrison Diversion Unit will violate treaty obligations between the United States and Canada with the strong likelihood of a prohibition on the return flows into Canada; and

WHEREAS, the Bureau of Reclamation and responsible North Dakota officials have under consideration the placing of excess return flows in the James River which flows thru South Dakota; and

WHEREAS, the Garrison Diversion Unit has identified wildlife mitigation areas in South Dakota which could take land away from the local farmers if implemented; and

WHEREAS, increased return flows into the James River would cause drainage problems with the Lower Crow Creek Watershed District; and

WHEREAS, the possibility of a by-pass canal around Sand Lake National Wildlife Refuge could cause local landowners irreversible damages,

BE IT RESOLVED, that the Lower Crow Creek Watershed District supports and asks that the South Dakota Congressional Delegation and the Governor of South Dakota join the Oahe Conservancy Sub-District in its efforts to protect the citizens and landowners of South Dakota from adverse effects related to the Garrison Diversion Unit in North Dakota,

AND BE IT FURTHER RESOLVED, that the Lower Crow Creek Watershed District is opposed to further funding of the Garrison Diversion Unit until questions relating to return flows coming into South Dakota thru the James River and wildlife mitigation in South Dakota are answered.

Vogel Schiller
Secretary

GARRISON PROJECT CONSTRUCTION RESOLUTION

We have been informed that return flows from the Garrison Project could be sent into South Dakota. It is possible that the entire Garrison Project could be re-authorized because of strong objections by Canada and Minnesota to these return flow waters.

Our drainage district would be adversely affected by increased flows into the James River. It is necessary for the Watershed Board and the people of South Dakota to be involved in the planning process before construction is started.

Many of these impacts have not been identified. WE FEEL ASSURANCES MUST BE WRITTEN INTO FEDERAL LAW TO PROTECT SOUTH DAKOTA LANDOWNERS BEFORE ANY FURTHER CONSTRUCTION IS STARTED.

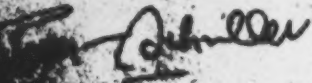
The Lower Crow Creek Watershed District goes on record as OPPOSING the letting of contracts by the Federal Water and Power Service to complete portions of the Garrison Project in North Dakota which could eventually have an adverse affect on the property owners of South Dakota.

Lower Crow Creek Watershed District
Board of Directors

Hubert Dinger, Chairman
Robert Jensen, Vice-Chairman
George Schuller
Richard Daly
Laverne Swanson

Supported and passed unanimously by the Board of Directors on January 20, 1961.

Roger Schuller, Secretary
Claremont, So. Dak. 57432



The entire watershed area involved is in excess of 200,000 acres.

Governor's River Plan Resolution

The Lower Crow Creek Watershed District would like to advise Governor Janklow of its concern on his plan to improve the James River. Our support of the Governor's plan will depend on the consideration given to our position and farmlands that are involved.

Whereas, in excess of 50,000 acres of farmland is affected by runoff water pooling from the Marshall County hills,

Whereas, the James River is the only outlet to drain the water from the watershed district land,

Whereas, the Governor's plan would affect the drainage outlet of the watershed,

Whereas, the Governor has not taken into consideration the farmland located within the watershed,

Be it resolved:

That a study be conducted on the Governor's river plan involving the watershed district board or its representative.

That the local people control the study and make the final determination on matters involving engineering and contracting.

That increased flows in the James River will necessitate pumping facilities at the outlet of the drain into the river to alleviate the flooding of farmland in the watershed district.

That a pumping facility be a priority feature with construction and operating cost of this facility made a part of the river plan as a direct cost to the Garrison Project in North Dakota.

Lower Crow Creek Watershed District
Board of Directors
Hubert Dinger, Chairman
Robert Jensen, Vice-Chairman
George Schuller
Richard Daly
Laverne Swanson

Approved and passed unanimously by the Board of Directors on January 20, 1981.
Roger Schuller, Secretary
Claremont, So. Dak. 57432

Roger Schuller

Senator MURKOWSKI. Thank you very much, Mr. Schuller. I certainly concur with your analysis that the poor do not benefit from high interest rates of Government bonds.

Our next witness is Mr. Earl Chesnick, Redfield, S. Dak.

STATEMENT OF EARL CHESNICK, PRESIDENT, JAMES BASIN WATER DEVELOPMENT ASSOCIATION, REDFIELD, S. DAK.

Mr. CHESNICK. Chairman Murkowski, Senator Abdnor, my name is Earl Chesnick, and I am president of the James Basin Water Development Association, a water goal participant, member of the Small Business Council of South Dakota and the White House Conference on Small Business. I reside in the Oahe conservancy subdistrict in Spink County, and my livelihood depends in dealing with the quality of water in South Dakota.

I would like to reaffirm our position against deauthorization of the Oahe project until South Dakota is assured that it will receive the proper and legitimate water development in place of the Oahe unit. This was guaranteed by the Federal Government for the continuing economic loss suffered in South Dakota due to the loss of 540,000 acres inundated to provide flood control for downstream States.

Mr. Chairman, I am trying to summarize through these, so if you will bear with me.

Senator MURKOWSKI. I appreciate that.

Mr. CHESNICK. I would now like to turn to some comments on Senate bill 1553. In the first section 2, we believe that the utilization of existing facilities is only a good economic move for the State of South Dakota and the United States, that it would be a waste of taxpayers' money not to utilize these and the various alternatives that are proposed, such as the CENDAK irrigation unit.

In section 4-B, in his recommendations to Congress, the Secretary should use criteria no less favorable than those under which the Oahe unit state. We feel that South Dakota should not be penalized for the Federal Government taking over 25 years to complete a water project, and that should have built, it would have built under those criteria, and we believe we are entitled to the same today.

Under section 3-A, we are concerned about the cancelling of the master contract because of the significant economic benefits to the State of South Dakota. And until such other plans and other projects are completely authorized with the same benefits, the master contract holds very many beneficial things for South Dakota, and we believe it should be retained.

In section 4, we believe that the Secretary of the Interior should make available the Missouri River Basin program pumping power to irrigation projects to the Indian tribes and to the public identities organized under South Dakota law which have been authorized by the Flood Control Act of 1944 to receive power. We believe this is another benefit, an economic benefit to overcome the losses we have suffered.

Farther down in my testimony, Mr. Chairman, I came to some conclusions, as you see there, about some articles that had been in the paper referring to David Stockman, our Budget Director. I hope that some of these are clearly his ideas and not the administration's because

some of it, the ideas that he is proposing there lead me to believe that possibly the administration is not in favor of water development for South Dakota, especially under the new criteria which we would not then be able to meet. So I take issue with that and hope you will take that into consideration.

In closing, Mr. Chairman, let me summarize by stating we believe the Federal Government has an obligation to the State of South Dakota under the original 19 flood control agreement to compensate South Dakota for the revenues lost by the inundated lands over 450,000 acres. This can only be achieved through the higher productivity of other lands in the State of South Dakota through water development.

If the favorable criteria of the Oahe project is retained for other projects within his Senate bill 1553, it appears that this possibility can be done.

I would like to thank the chairman and the committee for the work they have done in this area and for the opportunity to testify before you. Thank you, sir.

[The prepared statement of Mr. Chesnick follows:]

JAMES BASIN WATER DEVELOPMENT ASSOCIATION

ROOM 511 CITIZENS BUILDING
ABERDEEN, SOUTH DAKOTA 57401

605-225-8653

Senate Subcommittee on Water and Power
Field Hearing on Senate Bill 1553
Saturday, September 12, Pierre Civic Auditorium
Pierre, South Dakota

Senate Chairman Murkowski, other Senators and Committee Staff. Today is yet another long day in the development of South Dakota water. Many South Dakotans have worked long hours and many years in the development of our water, since the conception of the Pick-Sloan Missouri Basin Program and the irrigation development authorization for South Dakota by the Flood Control Act of 1944.

We hope that this Hearing will help to clarify and set aside the differences that have existed in the past and start the communications necessary to put into motion the water development so badly needed in South Dakota.

At this point, I would like to reaffirm our position against deauthorization of the Oahe Project until South Dakota is assured that it will receive the proper and legitimate water development in place of the Oahe Unit. This was guaranteed by the Federal Government for the continuing economic loss suffered in South Dakota, due to the loss of 540,000 acres inundated to provide flood control for down stream states.

Mr. Chairman let me now turn my comments to Senate Bill 1553 and corresponding house bill 4347. In Section 2 Item 1 we would like to reaffirm the alternate uses of constructed facilities in that it would be a shame and a waste of tax payers' money not to utilize these in the various programs that have been proposed such as; •
GENDAK Irrigation Unit, the Lower James and others that could utilize these facilities.
Item 2 - In the future use of water delivered by the Garrison Unit. We believe that this would be another way of developing water for South Dakota along the James Basin Area.

JAMES BASIN WATER DEVELOPMENT ASSOCIATION

ROOM 511 CITIZENS BUILDING
ABERDEEN, SOUTH DAKOTA 57401

805-225-8855

We feel that the investigation of this would be beneficial to the people in this area for not only irrigation but water for cities, rural water systems and a development of industry.

Section 2 Item 4-B - In formulating his recommendations to Congress, the Secretary shall take into account the land inundated in South Dakota under the Pick-Sloan Missouri Basin Program and the irrigation development authorized for South Dakota by the Flood Control Act of 1944. In determining the feasibility of projects proposed by the State under this Section, the Secretary shall use criteria no less favorable than those under which the Oahe Unit initial stage was authorized. We feel that South Dakota should not be penalized for the fact that it takes the Federal Government over twenty-five years to complete a water project and that should the Oahe Unit have been built yesterday or today it would have built under that criteria with todays cost and we feel that any ulternate plan should afford South Dakota the same advantages that the Oahe Plan would as was authorized by the Flood Control Act of 1944.

Under Section 3 A - The Secretary is authorized to cancel the master contract in participating and security contracts for the Oahe Unit. We believe that the master contract holds a significant economic identity for the State of South Dakota and until such time as other projects are completely authorized with the same benefits as held in the master contract such as; low rate pumping power, partial repayment by power revenues derived by the Pick-Sloan Dam Project, 3 and 3/4 percent interest rates and other financial advantageous benefits, it should be retained.

JAMES BASIN WATER DEVELOPMENT ASSOCIATION

ROOM 511 CITIZENS BUILDING
ABERDEEN, SOUTH DAKOTA 57401

605-225-8858

Section 4 - We believe the Secretary of the Interior along with the Department of Energy should authorize to make available the Missouri Basin Program pumping power to irrigation projects constructed in South Dakota by the Indian Tribes or public identities organized under State Law in which have been authorized by the Flood Control Act of 1944 to receive such power. We believe this should not be tied to Reclamation Funding Projects only. We believe that people with the initiative to use private resources to construct such projects should be offered the same advantages as the Reclamation Funded Project.

Under Section 5 - We believe that if the Administration in Congress is sincere in their desires to modify or re-authorize that this would be an appropriate time to put some monetary figures down for the Webb Project, CENDAK, and various other projects for study money.

Mr. Chairman, I would now like to turn your attention to an Article in the Aberdeen American News ~~NEWS~~ (Washington Bureau) with ^{excepts} ~~excerpts~~ from the Associated Press Reports on the House Hearings held in Washington on Wednesday, September 9, 1981. In reading this article, I have come to the conclusion that the Administration does not believe that the Federal Government has an obligation to the State of South Dakota under the 1944 Flood Control Act. It appears that Budget Director David Stockman is willing to fund Webb and agree to this water development project only. The Article quotes Stockman as saying, "it would be clearly inappropriate to use outdated standards and procedures to develop additional water projects in South Dakota". Also in a letter sent Tuesday to Representative Roberts, Stockman said, "that providing low cost power rates to users would set an undesirable precedent in the Missouri Basin".

JAMES BASIN WATER DEVELOPMENT ASSOCIATION

ROOM 511 CITIZENS BUILDING
ABERDEEN, SOUTH DAKOTA 57401

805-225-8855

The Article goes on to state a quoted passage from the Stockman letter which said any project that would use existing Oahe Facilities would not be able to use the original 3.75 percent interest rate granted Oahe.

The Article further states the Administration is developing new water project standards which would be less favorable, than those under which Oahe was developed. If the meaning of this is that future water development project would have to meet these higher Federal criterias in place of the original criteria set for Oahe, then only a modified version of the Oahe Project retaining all the cost benefit ratios will be the only way South Dakota will receive its just compensation for the 540,000 acres of land lost to the economic status of this State.

Perhaps a modified version of the Oahe Project could be a Federally Funded East Bound Water Delivery System from the Oahe Reservoir to the James River for the purpose of providing municipal and industrial waters to the cities and water for domestic rural water system and for irrigation purposes along with water filling the lakes in the area for recreation and wildlife preservation. This project could then be administered by the State somewhat the same as the State of Colorado does. This might be the only alternative that the State of South Dakota has for the water development promised for the Pick-Sloan Agreement.

The fact that Stockman wants the Forty-One Million Dollars all ready spent on the Oahe Project to be included in any project utilizing Oahe features while denying those projects the advantages of the low interest rate and Bureau Power pay back makes it appear almost impossible for any alternative projects to have a favorable status in cost benefit ratios by Federal Standards.

JAMES BASIN
WATER DEVELOPMENT ASSOCIATION

ROOM 511 CITIZENS BUILDING
ABERDEEN, SOUTH DAKOTA 57401

805-225-8655

This leaves us with only one alternative and that would be to modify the existing Oahe Project and Contracts to incorporate those ideas which are clearly desirable by the people of this area and to proceed under those guide lines to develop water utilizing the original contract.

In closing, Mr. Chairman, let me summarize by stating, we believe the Federal Government has an obligation to the State of South Dakota under the original 1944 Flood Control Agreement, to compensate South Dakota for the Revenues lost by the inundated lands of 540,000 acres. This can only be achieved through the higher productivity of other lands in the State of South Dakota through water development.

If the favorable criteria of the Oahe Project is retained for other projects within this Senate Bill, it appears that this possibly can be done.

I would like to thank the Chairman and the Committee for the work they have done in this area and for the opportunity to testify before them.

Thank you

James Basin Water Development Association

Earl Chesnik President

Senator MURKOWSKI. Thank you, Mr. Chesnick, for your very detailed presentation. I think you brought up points that hadn't been presented to the committee in previous testimony, and we certainly thank you.

Mr. Roland Sieh, Bath, S. Dak.? Mr. Sieh, proceed.

**STATEMENT OF ROLAND W. SIEH, FARMER, JAMES RIVER VALLEY,
BATH, S. DAK.**

Mr. SIEH. Mr. Chairman of the subcommittee and Senator Abdnor, I am Roland Sieh from Bath, S. Dak., a farmer and landowner in the James River Valley.

Our river-bottom land is subject to periodic flooding as well as dry periods when the river is dry. I have had a State water permit for the last 2 years, but there has not been enough water to irrigate with.

The James River is not a dependable source of water for irrigation or domestic use. That is why I support the Garrison modification to bring water down via North Dakota to the James River. The James River needs to be dredged out and the channel improved to carry the water needed for irrigation as well as to prevent flooding.

I would say that 15 of my neighbors are in favor of the dredging the river out and cleaning it out. Not all of them want to irrigate, but a lot of them want to get some measure of flood control.

Approximately 15 years ago I signed a contract for water through the Oahe project to bring water to my farm. The project has been stopped, although the people who stopped it never asked me what I wanted in return. There were hundreds of other contracts signed at that time. Therefore, I would like to transfer part of the Oahe authorization to the Garrison modification—that's Governor Janklow's plan—so we could get the same benefits that we had under Oahe.

I totally don't oppose the deauthorization of the Oahe project until the State of South Dakota gets ample projects in return. Now, we want a dependable supply of water for irrigation through the Garrison project.

If we don't bring supplemental water into our State when we have the opportunity, in 20 years or more much of our crop land, because of inflation, will go back to grass, or the large operators will take over. The small young farmer will be gone. I have a son that's within that condition.

The day of the family farmer is limited; large operators may need only \$2 or \$3 profit per acre over thousands of acres, and they will replace the smaller operators.

In order to compete, the small farmer must intensify his operation. Instead of farming three quarters of corn with a yield of about 40 bushels—that's about our yield up where I live, other people have higher—one quarter of irrigated corn would produce about the same number of bushels. It certainly would add stability for a livestock operation.

Therefore, the Garrison modification is essential for the stability of our agriculture in northern South Dakota.

Thank you.

Senator MURKOWSKI. Thank you, Mr. Sieh.

The next witness is Mr. Charles Boynton.

Mr. BRAUN. He is not here.

Mr. MURKOWSKI. He is not here. All right; did you have someone to replace him particularly, or—all right, if not, the next witness is Mr. John Kleinsasser. Mr. Kleinsasser, welcome to the committee, and please proceed with your testimony.

STATEMENT OF JOHN KLEINSASSER, FRANKFURT, S. DAK.

Mr. KLEINSASSER. Mr. Chairman, Senator Abdnor, I appreciate your coming over here to try to help us through. We appreciate your efforts, also.

I am John Kleinsasser from Frankfort, S. Dak. I do represent the farmers in Beadle and in Spink County. But I am going to make my comment on my testimony extremely brief this afternoon, and I am going to send in the rest of it. I don't want to repeat the words that have already been said, but I extremely believe what some people already said this morning, especially the testimony of our Government, what he said this morning when he came in here.

I must say his proposals and also his testimony, the words were wisely said. I also agree with Mr. Chesnick here on his testimony that he gave forth and also on Roland Frankenstein and Donald Barbers. I extremely believe that the people meant what they said.

We are very much in need of irrigation in South Dakota. We have potentials, and I am sure that the State of South Dakota can prosper as well as the adjoining States or the neighboring States around us. We have the water, and I think we should put it to use.

I believe that is all I have to say. Thank you.

[The prepared statement of Mr. Kleinsasser follows:]

Mr. Chairman and Members of the Committee:

I am John Kleinsasser from near Frankfort, South Dakota, and I represent the Hutterite Colonies located in Spink County along the James River. My testimony is in support of the substance and philosophy of S.B. 1553 and its effort to further water development in South Dakota.

For some time we have been equipped to irrigate from the James River but have found the ^{stability} ~~reliability~~ of the river to be extremely ^{unreliable.} ~~unstable~~. Overriding municipal needs downstream can cut off our water supply; it is right that this should happen when domestic needs are at stake. However, we long believed and hoped that the Oahe Project would provide sufficient water for all of our competing needs and it was with great disappointment that we watched the project die.

Now there is new promise in two different proposals; namely, the project known as CENDAK and Governor Janklow's proposal that Garrison Diversion waters be sent through the James River. Both of these projects have great merit and we support them strongly. S.B. 1553 could help make them happen.

The James River has been left untouched since the days of the early settlers in South Dakota. Through the years debris has accumulated and the river has silted in many places. It is desperately in need of being cleared out and regulated to the extent that its flow is steady. At present, the river can flood or be

in drought depending on the year or on any given time of year. In this state, it is pathetic both from an aesthetic point of view and a utilitarian one.

Diverting Missouri River water to the James would enhance its potential for municipal use, irrigation purposes, a recreational source, and scenic value. Because CENDAK would bring less water to the James than originally proposed in the Oahe Project, the James could well utilize features of both CENDAK and the Garrison Diversion proposals. The plans are not mutually exclusive, and we support them both.

Your passage of S.B. 1553 would not only help bring to reality a promise made long ago to South Dakota to provide water development in exchange for bottom lands lost in the construction of the mainstem dams but it would also benefit the nation as a whole by greatly increasing the productivity of a state long starved for water.

Thank you for giving me this opportunity to comment and to ask your favorable consideration of S.B. 1553.

Senate Subcommittee on Water and Power
Field Hearing on Senate Bill 1553
Saturday, September 12, Pierre Civic Auditorium
Pierre, South Dakota

Senate Chairman Murkowski, other Senators and Committee Staff. Today is yet another long day in the development of South Dakota water. Many South Dakotans have worked long hours and many years in the development of our water, since the conception of the Pick-Sloan Missouri Basin Program and the irrigation development authorization for South Dakota by the Flood Control Act of 1944.

We hope that this Hearing will help to clarify and set aside the differences that have existed in the past and start the communications necessary to put into motion the water development so badly needed in South Dakota.

At this point, I would like to reaffirm our position against deauthorization of the Oahe Project until South Dakota is assured that it will receive the proper and legitimate water development in place of the Oahe Unit. This was guaranteed by the Federal Government for the continuing economic loss suffered in South Dakota, due to the loss of 540,000 acres inundated to provide flood control for down stream states.

Mr. Chairman let me now turn my comments to Senate Bill 1553 and corresponding house bill 4347. In Section 2 Item 1 we would like to reaffirm the alternate uses of constructed facilities in that it would be a shame and a waste of tax payers' money not to utilize these in the various programs that have been proposed such as; CENDAX Irrigation Unit, the Lower James and others that could utilize these facilities. Item 2 - In the future use of water delivered by the Garrison Unit. We believe that this would be another way of developing water for South Dakota along the James Basin Area.

We feel that the investigation of this would be beneficial to the people in this area for not only irrigation but water for cities, rural water systems and a development of industry.

Section 2 Item 4-B - In formulating his recommendations to Congress, the Secretary shall take into account the land inundated in South Dakota under the Pick-Sloan Missouri Basin Program and the irrigation development authorized for South Dakota by the Flood Control Act of 1944. In determining the feasibility of projects proposed by the State under this Section, the Secretary shall use criteria no less favorable than those under which the Oahe Unit initial stage was authorized. We feel that South Dakota should not be penalized for the fact that it takes the Federal Government over twenty-five years to complete a water project and that should the Oahe Unit have been built yesterday or today it would have built under that criteria with today's cost and we feel that any alternate plan should afford South Dakota the same advantages that the Oahe Plan would as was authorized by the Flood Control Act of 1944.

Under Section 3 A - The Secretary is authorized to cancel the master contract in participating and security contracts for the Oahe Unit. We believe that the master contract holds a significant economic identity for the State of South Dakota and until such time as other projects are completely authorized with the same benefits as held in the master contract such as low rate pumping power, partial repayment by power revenues derived by the Pick-Sloan Dam Project, 3 and 3/4 percent interest rates and other financial advantageous benefits, it should be retained.

Section 4 - We believe the Secretary of the Interior along with the Department of Energy should authorize to make available the Missouri Basin Program pumping power to irrigation projects constructed in South Dakota by the Indian Tribes or public identities organized under State law in which have been authorized by the Flood Control Act of 1944 to receive such power. We believe this should not be tied to Reclamation Funding Projects only. We believe that people with the initiative to use private resources to construct such projects should be offered the same advantages as the Reclamation Funded Project.

Under Section 5 - We believe that if the Administration in Congress is sincere in their desires to modify or re-authorize that this would be an appropriate time to put some monetary figures down for the Webb Project, GENDAK, and various other projects for study money.

Mr. Chairman, I would now like to turn your attention to an Article in the Aberdeen American News Near Washington Bureau with excerpts from the Associated Press Reports on the House Hearings held in Washington on Wednesday, September 9, 1981. In reading this article, I have come to the conclusion that the Administration does not believe that the Federal Government has an obligation to the State of South Dakota under the 1944 Flood Control Act. It appears that Budget Director David Stockman is willing to fund Webb and agree to this water development project only. The Article quotes Stockman as saying, "it would be clearly inappropriate to use outdated standards and procedures to develop additional water projects in South Dakota". Also in a letter sent Tuesday to Representative Roberts, Stockman said, "that providing low cost power rates to users would set an undesirable precedent in the Missouri Basin".

The Article goes on to state a quoted passage from the Stockman letter which said any project that would use existing Oahe Facilities would not be able to use the original 3.75 percent interest rate granted Oahe.

The Article further states the Administration is developing new water project standards which would be less favorable, than those under which Oahe was developed. If the meaning of this is that future water development project would have to meet these higher Federal criterias in place of the original criteria set for Oahe, then only a modified version of the Oahe Project retaining all the cost benefit ratios will be the only way South Dakota will receive its just compensation for the 540,000 acres of land lost to the economic status of this State.

Perhaps a modified version of the Oahe Project could be a Federally Funded East Bound Water Delivery System from the Oahe Reservoir to the James River for the purpose of providing municipal and industrial waters to the cities and water for domestic rural water system and for irrigation purposes along with water filling the lakes in the area for recreation and wildlife preservation. This project could then be administered by the State somewhat the same as the State of Colorado does. This might be the only alternative that the State of South Dakota has for the water development promised for the Pick-Sloan Agreement.

The fact that Stockman wants the Forty-One Million Dollars all ready spent on the Oahe Project to be included in any project utilizing Oahe features while denying those projects the advantages of the low interest rate and Bureau Power pay back makes it appear almost impossible for any alternative projects to have a favorable status in cost benefit ratios by Federal Standards.

This leaves us with only one alternative and that would be to modify the existing Oahe Project and Contracts to incorporate those ideas which are clearly desirable by the people of this area and to proceed under those guide lines to develop water utilizing the original contract.

In closing, Mr. Chairman, let me summarize by stating, we believe the Federal Government has an obligation to the State of South Dakota under the original 1944 Flood Control Agreement, to compensate South Dakota for the Revenues lost by the inundated lands of 540,000 acres. This can only be achieved through the higher productivity of other lands in the State of South Dakota through water development.

If the favorable criteria of the Oahe Project is retained for other projects within this Senate Bill, it appears that this possibly can be done.

I would like to thank the Chairman and the Committee for the work they have done in this area and for the opportunity to testify before them.

Thank you

Sincerely Yours
John Meinasser

Franklin S. D.
57440

Senator MURKOWSKI. Thank you very much. I very much appreciate your testimony, and be assured that we will welcome your written testimony when you submit it.

The last witness, I believe, is Mr. Chester Gullickson.

STATEMENT OF CHESTER GULLICKSON, BATH, S. DAK.

Mr. GULLICKSON. Honorable Senators Abdnor and Murkowski, I am Chester Gullickson, an irrigator from Brown County, S. Dak., and the James River Valley. The group I represent does not want the Oahe project was authorized at 495,000 acres. We have a first phase of law; it is engineered; it is an excellent project with minor changes.

The CENDAK supporters will accept a plan built much like it. I have a good solution for the CENDAK people, I do believe. The Oahe project was authorized at 495,000 acres. We have a first phase of 190,000 acres. Why not take the other 305,000 acres and give it to the CENDAK project, and that way we maintain the whole Oahe project in its entirety and present form.

With that said, I want to go on to the Garrison project. South Dakota needs every bit of irrigation water that we can possibly bring into our State and use. The Governor's plan of the Garrison project to bring it down here to irrigate parts of eastern South Dakota, to supply water to the cities, and so on, is an excellent plan, and I hope that Congress will appropriate the funds to study the merits and the possibilities of bringing Garrison return flows down to this State.

Thank you.

[The prepared statement of Mr. Gullickson follows:]

STATEMENT OF CHESTER GULLICKSON, BATH, S. DAK.

I represent the people that believe in irrigating from the Oahe Project and the proposed advocated Garrison Project by Gov. Janklow, in the North Central and James River Valley of South Dakota, water that comes from the golden Mo. River.

1. We have a dire need for many irrigation projects, in S. Dak. S. Dak. is arid to semi-arid.

2. The last poll taken showed 82 percent of the people favored a speeded up Oahe construction.

3. Most all objections against the Oahe project have come from outside the project.

4. Congress *must* re-design the mitigation laws of the U.S. that hold back irrigation water projects that would draw ducks, geese, and wildlife of all kinds.

5. I helped organize the Oahe Plan. I do irrigate 235 acres out of the James River when there is water.

6. We need a positive irrigation attitude by the Oahe Subdistrict board which we have not had up to now.

7. My people endorse the Garrison Project as advocated by Gov. Janklow. We are 100 percent behind this project and will aid in its development. The Congress will have to authorize funds for a study of "Garrison."

8. Most of all, we want to see the authorized Oahe Project built—even though modified in some respects.

9. Oahe is engineered! It is authorized. It could be under construction soon!

10. Irrigation water. S. Dak. needs it!

Don't Do It, South Dakota!

Editorial Staff - Sept 12, 1981 - Chester Sperry

With the third major drought in 5 years, 1978, 1980 and possibly 1981, which is barely a threat away from drought disaster for Northern South Dakota (a very cool summer with light rains has saved the day to this point) proves once again the dire need for irrigation water for the land which is particularly suited to the James River Valley.

In 1969 when the Oahe Irrigation Project had been signed by the then local sub-district board, (one that strongly favored irrigation and all water development for cities plus recreation and wild life), it was figured by engineers at that time, the final water could be delivered to the James River Valley in about 7 years. If that was the case, 4 years of irrigating could have been accomplished by 1981. More land would be under irrigation each succeeding year, thus raising much feed crops for farmers and ranchers who have been selling breeding herds due to drought and lack of feed, in an out of the James River Valley. Now alfalfa is selling for \$100 per ton in other states produced from irrigation, and being shipped in here.

According to an engineer that spoke at the state water congress, it takes approximately 17 years to engineer, plan, soil test, pass wild life and environmental hurdles before a project is ready to even present to Congress. In 17 to 20 years South Dakota could be 500 or more down the list for water projects. It would not be authorized in this century.

Oahe is authorized by Congress and signed into law. Oahe is engineered. It is an excellent project with minor changes. The Cankat supporters will accept a plan built much like the present Oahe plan!

South Dakota! Don't give up a bird in the hand for a sky full of birds in projects yet to be dreamed up!

Just because the majority of the Oahe sub-district board, led by a president and manager bent on killing Oahe, who have denied irrigation water to the land and to our cities, and has spent 7 disgraceful years trying to kill Oahe, along with the United Family Farmers whose unforgivable efforts will mark them in the future history of this state, as one of the two groups that caused South Dakota to lose irrigation and other benefits from the precious water of the Missouri River in this century.

Senator Abdor states there may not be any money for water projects, at least of new origin. Now there is hope that with the water understanding attitude - there is now hope for this project. The UFF is desperately trying to beat our congressmen into submission to kill or de-authorize our only authorized project!

South Dakota — will you let these few mis-guided individuals and groups rule water development, to the everlasting loss and disgrace to this state? Don't do it — South Dakota — Don't do it!

This ad written and paid for by Jim Sperry, Allen Sperry and Chester Sperry.

THIS IS WHAT SOUTH DAKOTA WILL LOSE!

MULTIPURPOSE WATER RESOURCE DEVELOPMENT

(as authorized P.L. 95-452, August 1, 1978)

WATER FOR PEOPLE.....

—28,600 acre-feet of water per year, for over 100,000 people and industries in communities and rural areas of central South Dakota

WATER FOR AGRICULTURE.....

—180,000 acres of project irrigation from the reservoir. *Note: Pumping and canal built for 1978-1981. First phase of 400,000 acres.* —excess system capacity could provide water for irrigation of 18,000 acres of nonproject lands along the main supply system. *3.5% increase for irrigation.*

WATER FOR RECREATION.....

—8 reservoirs and lakes
—Water Surface Area at Top of Conservation Pool Level

Reservoir or Lake	Acres
Blunt	21,000
Cresbard	3,000
Byron	5,000
James Diversion	1,000
North Santee/Lake	1,000
Total surface area	31,000

—estimated 180,000 visitors each year

WATER & AREAS FOR WILDLIFE.....

—18 fish and wildlife development areas
—40,000 acres of water, marsh, and upland 14,000 acres of replacement including over 6,000 acres of water and marshland
28,000 acres for enhancement including over 12,000 acres of water and marshland

WATER CONTROL.....

—incidental flood benefits along the James River. Prevent 8 out of 10 floods. (Estimated)

Information from Bureau of Reclamation, Sioux Falls, S.D.

Senator MURKOWSKI. Thank you very much, Mr. Gullickson. That concludes the panel assembled before us. I would ask Senator Abdnor if he has any questions.

Senator ABDNOR. None.

Senator MURKOWSKI. Thank you, gentlemen, for your testimony.

Mr. SCHULLER. May I ask how long you are going to leave the record open for written testimony?

Senator MURKOWSKI. The record will remain open for 2 weeks, during which time we will take written testimony. We just assume it will be postmarked before 2 weeks.

Thank you very much, gentlemen.

We are going to call on a portion of the Oahe Unit. The first group, Mr. Art Fischbach, chairman of the Spink County Irrigation District, and Mr. William Oliver, chairman of the West Brown Irrigation District; we would ask that they step forward and submit their testimony.

STATEMENT OF ART FISCHBACH, CHAIRMAN, SPINK COUNTY IRRIGATION DISTRICT BOARD OF DIRECTORS

Mr. FISCHBACH. Mr. Chairman, before we get started, I would like to take this opportunity to state that we are the two contracting parties. Everyone that's talked here today has talked about our land. We will try to be as brief as possible.

Senator MURKOWSKI. Thank you very much.

Mr. FISCHBACH. I am the chairman of the Spink County Irrigation District. I represent their official position by a majority of the board, all elected.

All the comments today prior to mine that I can see, except for the subdistricts, have been made by people who aren't elected, have no taxing power, no authority to take over the contracts, the very contracts the people were talking about here today.

We do not intend to be jacked around with our contracts. We have legal rights, and we are opposed to Senate bill 1553 as it is currently written; however, our official position is that we will support Senate bill 1553 if it is amended by line items we have written out, and we want everything deauthorized. We are talking about deauthorization, though—no monkey business. We want it out, or we aren't going to stand for it.

And that calls for—we will accept the Pierre Pumping Plant, Pierre Canal, reaches 1-A and 1-B, the low-cost interest, low-cost power, the Federal hydro-subsidy to pay 90 percent of construction costs. Although that runs against the grain of some of us as far as being subsidized—I personally don't believe in subsidization—we have agreed to go that far.

And we are directly proposing deauthorization. We feel it's a big step forward.

We have met over the years, especially lately, with the Governor and several other people of the CENDAK representation. We have no quarrel with any other water development as soon as we are guaranteed—that's what we mean by the amendment in the Senate bill—that we have no worry whatsoever.

We have had too many experiences with politicians, the Bureau of Reclamation just trying to do it to us, and we are not going to stand for that any longer. We have contracts; we have legal rights; we intend to use them.

We want that message taken to Washington, your committee, and I will say it myself if I have to.

We have—I'll just go over a few brief remarks from my testimony, if you will bear with me, and then I will introduce someone else here.

Senator MURKOWSKI. Please proceed.

Mr. FISCHBACH. If the Oahe project is built, it locks us into a declining repayment rate. If Oahe is built as authorized, we would have to live with it, we probably couldn't get a better contract. Given all the shortcomings of Oahe, we'd probably need every break we could get to make the thing work.

Mr. Stockman's recent letter to Congressman Roberts further supports our position that Oahe should be deauthorized in some form. We would support the suggestion Mr. Stockman made that an amendment be made to Senate bill 1553 which would provide assurance that in the event some other project uses any part of the partially constructed Oahe features, that they would repay the construction costs against it. By this, I mean if you are figuring it cost around \$42 million, for the irrigation projects around the State, they should get somebody with the authority to tax elected officials to form irrigations, let them take the obligations if they want the contracts. We will have no part of it from that point.

I'll pass over to the other two irrigations districts who have the same position, and someone else can take over. I would like to comment on this—you keep hearing the story about Brown and Spink Counties, our two areas; we have pumped in dry years and survived. And if you want to check me out personally, I don't hold delegating money at 3 percent or 5 percent, and I went through the same years, and so has our vice chairman, Dennis Haven, as the other guys have. It's tough, but we are getting by with the guys that are working for it, just like everybody else. But I am not looking for another handout; we are trying to give the money back, \$1 million, to the U.S. Government.

I would like to introduce our vice chairman of Spink County, too, Dennis Haven.

[The prepared statement of Mr. Fischbach follows:]

Testimony

Art Fischbach

Spink County Irrigation District

September 12, 1981

U.S. Senate Subcommittee on
Water and Power

Mr. Chairman. My name is Art Fischbach. I am the Chairman of the Spink County Irrigation District Board of Directors, and I am presenting this testimony on behalf of the District.

I operate a grain and dairy farm in Spink County near Mellette, South Dakota, and farm 960 acres in the proposed Oahe Irrigation project area.

Of the 190,000 acre of land proposed to be irrigated by Oahe Unit, 120,000 acres would be within the Spink County Irrigation District.

Comment On S-1553

The Irrigation Board reviewed Senate Bill 1553 and adopted the following official position on it; (see attachment 1)

1. We have supported deauthorization of Oahe Unit since 1979.
2. The Oahe Plan, as authorized by Congress, is a questionable plan in the areas of drainage, flooding, salting of soils, land classification, benefit-cost, checker-boarding, and other factors.
3. We join with the other contracting parties in objecting to the Department of Interior meeting with other interests to discuss our contracts without the District being represented.
4. We do not support Senate Bill 1553 as written because we feel it would remove the decisions on Oahe from the control of local

Art Fischbach

(cont'd)

elected entities, and put it in the hands of State and Federal officials without providing us any protection that the old project won't infact be forced on us.

5. We would support Senate Bill 1553 if it were amended to include specific language which would strike all features of the authorized Oahe Unit with the exception of the following;

- Pierre Pumping Plant
- Pierre Canal - reaches 1-A and 1-B
- Low Cost interest
- Low Cost power
- Federal hydro-subsidy to pay 90% of construction cost

6. We feel the existing contracts would be settled or voided once partial deauthorization occurred.

That position was adopted by unanimous action of the Spink County Irrigation Board. While this is not 100% of what some might like to see, for us it is a major compromise from our previous position.

The Board did not feel that the Blunt reservoir should remain authorized. It was aimed mainly at delivery to our area. Any new irrigation plans should restudy reservoir sites and try to locate them in the areas where the irrigation is going to be lcoated. We provided a copy of this position to the Governor and the Congressional Delegation prior to this hearing.

We met with Governor Janklow several weeks ago on this matter, and he said he thought he could go along with this kind of settlement. He didn't commit himself, however, to any particular features.

No one can expect to advance their proposals or ideas while the old Oahe Project plan hangs over our heads. That's kind of

Art Fischbach

(cont'd)

like playing poker with the title to another man's land. The Oahe authorization represents a federal lien or mortgage on land in the Spink Irrigation District. As a Board we are trying to represent and protect the interests of landowners in our area.

I was a little concerned by the Bureau of Reclamation's recently letter to the Oahe Sub-district, stating they felt that section three of this bill did not assure that the Old Oahe Project could not or would not be built. There is no way we can give up the contracts on the project until we have legal assurance on that point in the bill.

I Oahe is built the contracts lock us in to a declining repayment rate. If Oahe is built as authorized and we would have to live with it, we probably couldn't get a better contract. Given all the short comings of Oahe we'd probably need every break we could get to make the thing work.

Mr. Stockman's recent letter to Congressman Roberts further supports our position that Oahe should be deauthorized in some form. We would support the suggest Mr. Stockman made that an amendment be made to Senate Bill 1553 which would provide assurance that in the event some other project uses any part of the partially constructed Oahe features that they would repay the construction costs against it. I think that could be done, without holding us hostage any longer.

As far as the contracts are concerned, in April of 1979 we adopted a resolution asking that the participating and security contracts which we hold now on Oahe be terminated if legally possible. We sent the resolution to the Secretary of Interior. Seven months later we received a legal opinion dated November 30th,

Art Fischach

(cont'd)

1979 from the Interior Attorney stating the following;

"....under the project authorization act, the contracts are an inherent part of the construction, operation, and reimbursement of the Oahe Project. By terminating the contracts at this time the Secretary in effect would be deauthorizing the project. Only Congress has the power to deauthorize the Oahe Project."

"...there is another obstacle to terminating the contracts which is closely related to the above analysis. Congress has authorized the project to carry out certain specified purposes. The Secretary can not deviate from the basic purpose of a project as defined by Congress in the authorizing act."

"...the project could not go forward without repayment contracts. While deauthorization or reauthorization has substantial support, the ultimate decision on deauthorization or reauthorization rests with Congress." (attachment 2)

Senate Bill 1553 intends that the Oahe authorization can be "modified" to serve water to some other area. We have no objection with that, as long as it's consistent with our position outlined earlier. However, past letters with the Bureau of Reclamation and the Interior Department have informed us that any modification which goes beyond the basic project proposal would be considered a new project and would require new authorization.

For example, a letter was sent to the Interior Department dated March 28, 1979 asking which of some eight alternatives or modification to Oahe could be developed under the present authorization. The Lower James-Ft. Randall Diversion and the CENDAK proposal were included among that list. The May 3rd, 1979 letter from Clifford Barrett, Assistant Commissioner stated; (attachment 3)

"....In our judgement the options, modification, and changes that you listed all involve significant changes in the purpose and/or features from those authorized by the Congress. Therefore, it is our opinion that

Art Fischbach

(cont'd)

none could be implemented under the present authorization."

"...it is our opinion that any of those alternatives listed in your letter would require Congressional reauthorization."

A July 31, 1981 letter on the same question was received from the Office of Management and Budget said basically the same thing;...."project authorization per se, and certainly repayment, are not transferred from one project to another. A new project serving areas originally included in the Oahe Unit would require^{not}new authorization..." (attachment 4)

My point is this. If there is some way to get Oahe partially deauthorized and shift part of the authorization to someone else, that's fine with us, but lets get on with it. We are not going to set here waiting forever.

In closing, I would like to make some general comment about the Oahe Project, which I think reflects the opinion of many people in the project area. The one big thing the Bureau did which killed Oahe was petitioning out. There never was alot of support for the project in the area. But to get Congress to authorize the project, and to leave Congress with the impression there was a lot of support, the Bureau "petitioned out the opposition."

In 1964 those landowners opposed to the project were encouraged to petition their lands out and they were told that they would not be effected. Of course the Bureau new the project would effect everyone because they already had the plans designed with open ditches and drains running all over the county. There were a total of 771 landowners in the project area. In the fall of 1964 372 were encouraged to petition their lands out. In January of 1965 the election to form the irrigation district was held with

Art Fischbach

(cont'd)

330 landowners voting for formation of the district, and 69 voting against. The Bureau informed Congress there was massive support for the project in the Spink County area because 83% of the landowners voted infavour. They didn't count those who petitioned out. If they had, the real vote would have been 330 for formation, and 441 against. That was the real sentiment of the farmers. Had a true vote been taken the Spink Irrigation District would not have been formed and we probably wouldn't be setting here today. (see attachment 5)

Attachment 6 is a copy of a map which shows what the checkerboarding of the Irrigation Districts and the project area looks like. The dark areas are in the district and the white area is land that was petitioned out. The entire area, dark and light would be effected by the project. But only the dark areas get to vote.

Since the district was formed in 1965 the sentiment toward the project has changed even among those who thought they wanted it in 1965. As late as 1976 both irrigation district Board's supported construction of Oahe Unit. At the present time the majority on the Spink Irrigation District Board infavor of deauthorization is 5 to 2. On the West Brown Irrigation District Board is 3 to 2 infavor of deauthorization.

As I said, I farm 960 acres in the irrigation district. Attachment 7 is a map showing my lands circled in black. You can see the class 6 and 5 lands which are not irrigable are mixed up with the class 1, 2, and 3 that are. Also, most of the land is underlaid with clay and salt, and could be lost because of water logging and salt. The class six lands on section 8 is so low I think it would be flooded out with seepage from the 3 foot

water table.

That concludes my testimony. I want to thank you Mr. Chairman for coming out and holding this hearing. We've been trying to get Congress to listen to us on this for over six years now. I never thought it would be so hard to give money back to the federal government. Thank you.

Resolution 81-2

Whereas, since 1979, the Spink County Irrigation District Board of Directors has been on record in support of deauthorization of the Oahe Unit Irrigation Project, as outlined in legislation originally introduced by Senator James Abourezk and re-introduced by Congressman Bedell; and

Whereas, the Oahe Project, as planned and developed by the Bureau of Reclamation, and authorized in 1968 by Congress, is a questionable plan and lacking in the areas of; drainage, flooding, salting of soils, land classification, benefit-cost, checker boarding, and other factors; and

Whereas, the Oahe Unit plan is based upon House Document #163 and detailed plans approved by Congress in 1968, which identify project lands to be in the West Brown and Spink County Irrigation Districts, and the project is based upon three contracts, two of which obligate lands in the Irrigation Districts to construction, operation, and repayment of the project costs, and such contracts has been certified and finalized in a State Court of Law; and

Whereas, the only way to assure that the project will not be constructed as authorized and planned would be to deauthorize Oahe Unit.

Whereas, Congressional and State officials have met with federal Interior officials to discuss cancelling or altering the Irrigation Districts contracts and have excluded the District and other contract parties from these meetings, the result of which could be contrary to the interests of the District, and we join with the other contracting parties in protesting and objecting to these discussions and meetings; and

Whereas, the Irrigation District Board of Directors does not support legislation SB 1553 as written, because the legislation would remove the decision on the Oahe Project from local control and place it in the hands of the State and federal officials without providing necessary legal assurance that the old Oahe Project will not be built;

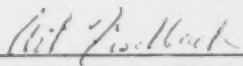
Therefore be it resolved, that the Spink Irrigation District Board of Directors does hereby go on record supporting SB 1553 if it were amended to include specific language which would strike all features from the Oahe Unit authorization but the following:

Pierre Pumping Plant
 Pierre Canal - 1A and 1B
 Low cost interest
 Low cost pumping power
 Federal hydro-subsidy to pay for construction 90%

Further resolve, that existing contracts related to Oahe Unit are non-negotiable except between the Irrigation Districts, the Oahe Conservancy Sub-district, and the federal government, and once the project features which are most unacceptable are removed and deauthorized, the contracts would be settled and voided.

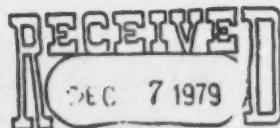
Approved August 31, 1981, by the Spink County Irrigation District Board of Directors with all Directors voting "aye".

Attested:


 Spink County Irrigation District
 Board Chairman

attachment #1

NOV 30 1979

OAHE CONSERVANCY
SUB-DISTRICT

Memorandum

To: Commissioner of Reclamation

From: Associate Solicitor, Energy and Resources

Subject: Resolution to Terminate Spink County Irrigation District
Contracts -- Oahe Unit, Pick-Sloan Missouri Basin Program

As requested in your June 29, 1979 memorandum to the Solicitor, we have reviewed the Resolution of the Spink County Irrigation District Board requesting that the security contract between the Spink County Irrigation District (I-District) and this Department and the participating contract between the I-District and the Oahe Conservancy Sub-district (C-District) be terminated (copy of resolution attached). We conclude that although the signators might be authorized to amend the contracts in a minor fashion, the basic rights and obligations cannot be waived without congressional action and, therefore, the contracts may not be legally terminated at this time.

Two considerations lead to this result. First, the various contracts involved in the Oahe project have created rights in the United States, principally a right to repayment of reimbursable funds expended to date if and when the project begins delivering water. It is a basic principle of government contract law that an administrative officer may not waive or modify rights provided in a contract without obtaining additional consideration. Second, under the project authorization act, the contracts are an inherent part of the construction, operation and reimbursement of the Oahe project. By terminating the contracts at this time the Secretary in effect would be deauthorizing the project. Only Congress has the power to deauthorize the Oahe project.

I. FACTUAL BACKGROUND

Public Law 90-453, 82 Stat. 624 (August 3, 1968), authorized construction of the initial stage of the Oahe Unit, Pick-Sloan Missouri Basin Project. The designated purposes of the project were to supply water for irrigation and municipal and industrial purposes, to control

attachment #2

-2-

floods, to conserve and develop fish and wildlife resources, and to enhance outdoor recreation facilities.

Sometime prior to 1976 local support for the Oahe Unit as originally planned eroded, primarily because of the large rights-of-way required, the environmental impacts of the project, and its growing cost. Due to the apparent lack of support the project was selected for detailed review during 1977 as part of the President's water project review. As a result of the review the President recommended that continued construction and funding of Oahe be halted unless significant local support developed, and, if resumed, the project be modified to eliminate the East Lake Plains area.

Although approximately \$40 million has been expended to date on unit construction, construction has been at a standstill since 1977 because of the lack of local support. Meanwhile, various groups are searching for alternatives to the project as originally planned and Reclamation is conducting the Oahe Unit Termination Study which will address alternatives for preservation or disposition of the already constructed facilities. Previous Solicitor's Office involvement included an opinion by the Assistant Solicitor, Water, holding that construction funds could be used to study only alternatives directly related to the originally authorized plan.^{1/} The future of Oahe is uncertain.

II. THE CONTRACTS

Oahe is somewhat complicated because there are three forms of contract involved in the construction, operation and repayment of the project. The primary contract is a Master Contract between the United

^{1/} Memorandum from Assistant Solicitor, Water, to Commissioner of Reclamation re: Use of Construction Funds for Study of Oahe Unit Alternatives (December 13, 1977).

Additionally, the Field Solicitor, Billings, on May 25, 1979, wrote a short memorandum to the Bureau of Reclamation's Regional Director, Billings, holding that the Bureau could not amend the I-District's contract to relieve it of its repayment responsibility.

Other correspondence include a memorandum from the Field Solicitor, Billings, to the Regional Director, Billings, (August 2, 1978) and a letter from the Associate Solicitor, Energy and Resources, to the Chairman of the C-District (Nov. 3, 1978), dealing with the manner of terminating the Oahe contracts. Since these latter two pieces of correspondence dealt with how to terminate the contracts in the event of deauthorization, they are not in conflict with this opinion.

-3-

States and the C-District.^{2/} The Master Contract essentially provides that the United States will build the project, makes provisions for the operation and maintenance of the project, and requires in return that the C-District will be primarily liable for the repayment of reimbursable charges. The Master Contract recognizes that the I-Districts ^{3/} will also be liable to the United States if the C-District fails to repay.

There are also participating contracts between the C-District and the I-Districts.^{4/} By these participating contracts the various beneficiaries agree to pay the C-District for the specific project benefits they receive. The Master Contract is made a part of the participating contract ^{5/} and by signing the participating contract the I-District expressly agrees to all of the terms of the Master Contract.^{6/} A participating contract is valid only if the I-District enters into a security contract with the United States.^{7/}

The security contracts ^{8/} obligate the I-Districts to make payments directly to the United States for any and all costs allocable to the I-District if the C-District fails to pay such costs.^{9/} To complete the package, the security contract incorporates both the master contract and the participating contract.^{10/}

^{2/} Contract No. 14-06-600-10, 079 (January 8, 1969, hereafter referred to as the Master Contract).

^{3/} Two I-districts are involved—the Spink County Irrigation District, whose resolution is at issue here, and the West Brown County Irrigation District.

^{4/} Participating Contract Between Oahe Conservancy Sub-District and the Spink County Irrigation District (December 23, 1969, hereafter referred to as the participating contract).

^{5/} Participating contract, Article 1(a)(1).

^{6/} Participating contract, Article 2.

^{7/} Participating contract, Article 4.

^{8/} Security Contract Between the United States and the Spink County Irrigation District, Contract No. 14-06-600-25A (December 23, 1969, hereafter referred to as the security contract).

^{9/} Security contract, Article 1(b).

^{10/} Security contract, Preliminary Recitals (a) and (b).

-4-

The C-District, therefore, is primarily liable to the United States but the I-District provides revenues to the C-District so that it can fulfill its contractual obligations to the United States. The I-District has also agreed to secure the United States against loss, at least for a share of the costs, if the C-District fails to pay the United States. The I-District's Resolution at issue here calls for the termination of its participating contract and its security contract.

III. DISCUSSION

The applicable rule of law is well established—officers and agents of the Government have no authority to give away the money or property of the United States, either directly or indirectly by the release of contract rights.^{11/} Thus, the United States' rights under the participating agreement or the security agreement cannot be terminated simply by agreement of the parties.

A. The Security Agreement

The security agreement presents the easier case so we'll discuss it first. In the security agreement the I-District promises to pay any part of its allocable share of project costs directly to the United States if the C-District fails to do so.

The United States has expended at least \$40 million on construction of the Oahe Unit and has—unless Congress provides otherwise in the future, such as in legislation deauthorizing the project—a right to repayment of the reimbursable share of that expenditure. Although repayment according to the terms of the master contract does not begin until water deliveries are started, the United States now has an inchoate right to those payments.

Of course, the Secretary hopes that the affected parties can agree on the future of Oahe. It is possible that legislation to deauthorize the unit may be introduced in the Congress and supported by the C-District. The Secretary has taken no position on deauthorization pending completion of Reclamation's termination study. At the moment, the United States has undeniable contractual rights to payment for reimbursable funds expended to date, if and when water delivery begins. To terminate the contracts without payment would constitute a waiver of those rights. The Secretary lacks the authority to waive such rights. Therefore, the security contract cannot be terminated.

It is clear that Congress can waive such rights or adjust debts owing to the United States. Since it appears now that Congress will act

^{11/} 51 Comp. Gen. 162 (1971); 35 Comp. Gen. 345 (1955); 18 Comp. Gen. 114 (1938).

-5-

in the future to reauthorize or deauthorize Oahe, Congress should settle the question of the outstanding debt in that legislation.^{12/}

B. The Participating Contract

The participating contract raises a slightly different problem. Since it did not sign the participating agreement, the United States is not technically in privity of contract with the I-District in the participating contract. The participating contracts establish the relationship between the I-Districts and the C-District. Nevertheless, it is clear that all of the contracts in Oahe form one package since, as pointed out earlier, they refer to and incorporate each other. It also is clear that the United States is an intended beneficiary of the participating agreement since revenues provided by the I-District to the C-District are to be used to repay the United States. The argument certainly exists that this promise in the contract creates a duty in the promisor to the United States as well as the direct promisee, and the United States may enforce this duty.^{13/}

The United States would have little need to pursue whatever third party rights it has since it is in privity of contract in the master contract and the security contract. Nevertheless, purely from a legal standpoint, there is a good argument that the United States has third party rights arising from the participating contracts which it cannot waive without adequate compensation.

It is clear, therefore, that the basic rights and obligations contained in the Oahe contracts may not now be terminated by the signators simply by agreement. Of course, the contracts contain much language dealing with other things such as project operation and supervision which the parties may have authority to amend. However, no amendment could waive the basic rights of the United States. Since termination of

^{12/} An example of how Congress could eliminate or adjust the debt is shown in former Senator Abourezk's bill to deauthorize Oahe, S. 3292, 95th Congress, 2nd Sess. Secs. 3 and 4 of that bill provided that the expenditures to date should be charged off against the Federal Treasury but that revenues derived from the disposition of properties and works acquired or built for the project would go to the Treasury in partial repayment. This bill did not specifically rescind the contracts, however, and we would strongly recommend that any future legislation introduced to reauthorize or deauthorize Oahe specifically address termination or revision of the contracts.

^{13/} See, e.g., 2 Williston, Contracts §§ 347-403 (3d Ed. 1959); 4 Corbin, Contracts §§ 772-825 (1964); Restatement of Contracts, 2nd, Tentative drafts 1-7 (A.L.I. 1973).

-6-

the contract seeks to do that, it is outside the authority of the Secretary.

C. Authority of the Secretary vis-a-vis the Congress

There is another legal obstacle to terminating the contracts which is closely related to the above analysis. Congress has authorized the project to carry out certain specified purposes. The Secretary acts as an agent of Congress in carrying out its laws.^{14/} The Secretary cannot deviate from the basic purposes of a project as defined by Congress in the authorizing act.^{15/} Reclamation law applicable to Oahe requires that contracts be executed by project beneficiaries to repay the reimbursable costs of the project.^{16/} Since Congress envisioned the repayment of Oahe's reimbursable costs by the project beneficiaries, the project could not go forward without repayment contracts. To terminate the existing contracts by agreement now, after reimbursable funds for construction have been expended, might be seen as constituting *de facto* deauthorization of the project. While deauthorization or reauthorization has substantial support, the ultimate decision on deauthorization or reauthorization rests with Congress.

IV. CONCLUSION

For the above reasons we conclude that the principal rights and obligations contained in the security and participating agreements executed by the I-District cannot be terminated by the Department at this time. Congress alone may adjust or terminate those rights and obligations.

Attachment

^{14/} See, generally, Federal Crop Insurance Corp. v. Merrill, 332 U.S. 380 (1947), Utah Power and Light Co. v. United States, 243 U.S. 389 (1917).

^{15/} See, e.g., 85 I.D. 337 (1978), Sol. Op. M-36903.

^{16/} 43 U.S.C. § 485 (1976); 43 U.S.C. § 423(e) (1976).

SPINK COUNTY IRRIGATION DISTRICT

REDFIELD, SOUTH DAKOTA

57469

May 5, 1979

Mr. Guy Martin
Assistant Secretary of Interior
Interior Building
18th & C St. NW
Washington, D. C. 20000

Dear Mr. Martin:

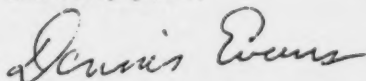
The Spink County Irrigation District Board adopted the following resolution at their regular meeting on April 24, 1979. We would appreciate it if you would put your staff to work on this and give us some fast results.

BE IT RESOLVED: The Security Contract between the Dept. of Interior and the Spink Co. Irrigation Dist., and the Participating Contract between the Oahe Sub District and the Spink Co. Irrigation Dist., shall be terminated, if legally possible, before any further water plan studies are made in this area.

BE IT FURTHER RESOLVED: If and when the contracts are terminated, the Spink Co. Irrigation District Board will definitely be active in working for a new water plan and new contracting for any area where the majority of the people want it. And also work with the Bureau of Reclamation on new alternate plans that have local support.

If there are any questions about the board's actions, please contact me at this address: Dennis Evans, Chairman, Spink County Irrigation District Board, Box 119, Ashton, South Dakota 57424.

Sincerely yours,



Dennis Evans, Chairman
Spink County Irrigation District Board

DE:sz



United States Department of the Interior

BUREAU OF RECLAMATION
WASHINGTON, D.C. 20240

IN REPLY
REF ID: A701735
500.-

MAY 3 - 1979

Mr. George Piper
United Family Farmers, Inc.
Box 523
Aberdeen, SD 57401

Dear Mr. Piper:

This is in reply to your letter of March 28 to Secretary Andrus listing eight potential options, modifications, or changes of the Oahe Unit in South Dakota. Our responses to the three questions you asked are as follows:

Question 1: "Which of the above listed changes, modifications and options of the Oahe project are currently under study by the Bureau of Reclamation?"

Response: None of the listed changes, modifications, and options are currently being investigated. However, as a general practice we do make a cursory examination of potential alternatives to any Reclamation project so that we can discuss the potential merits or deficiencies of each in an informed manner.

The only investigation currently funded for the Oahe Unit is the study of termination. The termination study will address alternatives for constructive use, preservation, or disposition of the previously constructed Oahe Unit facilities that could be implemented without undertaking further major Federal construction at this time.

Question 2: "Which of the above listed changes, modifications, and options could be developed under the present Congressional authorization for the Oahe Unit?"

Response: In our judgment the options, modifications, and changes that you listed all involve significant changes in purpose and/or features from those authorized by the Congress. Therefore, it is our opinion that none could be implemented under the present authorization.

attachment # 3

Question 3: "Which of the above changes, modifications, and options would require congressional authorization different from the authorization for the Oahe Unit?"

Response: For the same reasons as given in our response to question 2, it is our opinion that any of those alternatives listed in your letter would require congressional reauthorization preceded by an investigation of its feasibility. While we have not had a chance to examine in detail the authorized scope of various potential feasibility investigations, it is our feeling at this time that any such feasibility investigation could be undertaken under present authorities providing that the Congress would appropriate the necessary funding. No such feasibility studies are contemplated at this time.

Please let us know if we can provide further assistance.

Sincerely yours,



Assistant
Commissioner



EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

JUL 4 1981

Mr. Tom Fischbach
President
United Family Farmers, Inc.
Box 523
Aberdeen, South Dakota 57401

Dear Mr. Fischbach:

On behalf of the Director, I want to thank you for your letter of June 22, 1981, on the Oahe Unit. We have reviewed the information you enclosed on changes in the project which might require reauthorization.

If the Oahe Unit were to become an active project again, we believe that the modifications described in your letter -- particularly in the channelization of the James River and the removal of the East Lake Plain Area -- are significant enough to require either reauthorization of the project, or at least amendments to the existing construction authorization, before construction could resume. The use of completed Oahe Unit facilities for another project would likewise require Congressional action. Project authorizations per se, and certainly repayment contracts, are not transferable from one project to another. A new project serving areas originally included in the Oahe Unit would require new authorizations for planning construction.

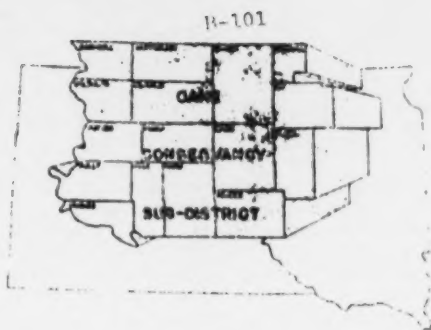
We hope this answers your questions.

Sincerely,

Frederick N. Khedouri
Associate Director
for Natural Resources,
Energy and Science

attachment #A

GLEN - Grotto
 Vice Chairman
 GLEN OVERBY - Mollette
 Vice Chairman
 PIPER - Carpenter
 Secretary
 SWANNHORST - Croshaw
 Treasurer
 MOHN
 Manager
 Dec 1966
 ws. SD 57401
 lnc 609/226-1122



DIRECTORS
 DOUG BECKETT Miller
 R. B. HIPPLE Pierre
 MIKE MADONH Mand City
 KEN MANN Agr
 LEONARD HAKESIG Webster
 GLENN OVERBY Mollette
 BILL PIPER Carpenter
 ARNOLD SCHURR Roman
 JOHN RIER Grotto
 SIEG SWANNHORST Croshaw
 STEVE THORSON Aberdeen

October 26, 1977

Mr. Guy Martin
 Assistant Secretary
 Land and Water
 U.S. Dept. of Interior
 Washington, D.C. 20240

Dear Assistant Secretary Martin:

As you know, if completed, the Oahe Project would serve some 190,000 acre of irrigation land in the West Brown and Spink County Irrigation Districts. Recently elections were held in those districts for Director positions. Enclosed for your information is a summary of the election results which you might find of interest. I and Oahe Board Vice Chairman, Glenn Overby, represent the rural area of Brown and Spink County on the Oahe Board. We have contended, as has the Sub-District Board, that interest and support for the Oahe Project has continually been deteriorating within Brown and Spink County and the area the project is proposed to serve. Originally, the Oahe Project was planned to provide irrigation to some 400,000 acres of contiguous land in Brown and Spink Counties. No attempt was made to form an irrigation district in East Brown County because of massive opposition there in the early 1960's. Prior to the irrigation districts being formed landowners were assured that the Bureau was studying an underground pipeline delivery system within the project area. Farmers who opposed the project were assured that if they "petitioned" their land out of the districts they would not be affected by the project. In 1964, 153 landowners petitioned out of the West Brown Irrigation District and 372 landowners petitioned out of the Spink County Irrigation District. After they had petitioned out they learned that the Bureau felt pipelines would be too expensive and that open delivery canals would have to be used to deliver irrigation water throughout the project area. Features of an open canal system in a "checker board" project affects all landowners in a project area, not just those who irrigate. By petitioning out 525 landowners, who would be directly affected by the project, lost their right to vote.

attachment # 5

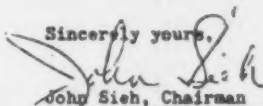
B-102

Page Two
Mr. Guy Martin
October 26, 1977

The results of the referendum conducted in the recent West Brown election among "potential irrigators" only indicates that there has been a continuous deterioration of support for the project within the project area. In 1969 83% of the voters in the West Brown Irrigation District voted to support repayment and participating contracts for Oahe Unit. The referendum on October 25, 1977 showed that only 52% of the potential irrigators "... favor the completion of the Oahe Project..." (179) and 48% (167) are opposed. If you combine those who petitioned out in 1964 and those opposed to the project in the recent referendum, you have a measure of the support within the project area in Brown County. A total of 320 landowners are opposed to the project and 179 support it. The referendum shows the continuous deterioration of support for the project. Also, the fact that candidates are being elected in the irrigation districts who oppose or question the Oahe Project substantiates our contention that there is little support for the Oahe Project within the project area.

Also enclosed with this letter is the results of a survey of the potential irrigators completed by the Oahe Board in May which shows that they are unwilling to accept additional legal or financial obligation for Oahe, not willing to have their land examined for potential wildlife areas, and would not be willing to sell a proportionate supply of their land for wildlife mitigation in order to receive the project. I have included for you information on the history of the irrigation districts since formation.

Sincerely yours,



John Sieh, Chairman
Oahe Conservancy Sub-District Board

JS/da

B-103

RE: ELECTION RESULTS
Irrigation District Elections

DATE: October 25, 1977

Annual elections were held in the West Brown and Spink County Irrigation Districts on October 25, 1977. The two Districts make up the 190,000 acres of the proposed Oahe Irrigation Project. Only those landowners who have land signed up in the Irrigation Districts are allowed to vote in these elections. Many more farmers and landowners who live within the proposed project area that would be affected by seepage, canals, and other project impacts are not allowed to vote in these elections.

SPINK COUNTY IRRIGATION DISTRICT

Three of the seven Directors seats on the Spink County Irrigation Board were up for election this year, and two were challenged. Challenger Jerry Zerbel defeated incumbent Allen Kettering 63% to 37% (23-13). Daldon Thelen defeated Virgil Hendenreich 61% to 39% (38-24). Roger Masat who had been appointed last year to fill out the remaining term of a Director who had passed away was not challenged. In addition, the two non-voting officers Loren Stuck and Henry Francoli were re-elected without challenge. The election puts two new Directors on the Spink County Board who question the Oahe Project (*) and at least one or two others who have reservations.

Directors

Dennis Evans*
Daldon Thelen*
Jerry Zerbel*
Lowell Styles
Roger Masat
Harold Olson
Kenneth Goodwin

Officers

Lawrence Stuck
Henry Francoli

WEST BROWN IRRIGATION DISTRICT

Two director seats were up for election this year and one was challenged. Paul Meyer tied incumbent Harold Dell with 30 votes each. At least 10 votes in that division are controlled by realtors and businessmen in the city of Aberdeen. Dennis Jones was elected to the second directors seat open without contest. Of the two non-voting officers of the Board, incumbent Harold Smith defeated challenger James Young 56% to 44% (190-148) and incumbent Laverne Swenson defeated challenger Neil Larson 54% to 46% (184-169). In addition electors of the West Brown Irrigation District were polled on a referendum question on whether or not they favored completion of the Oahe Project with 52% voting yes and 48% voting no. In the case of the tie by Meyer and Dell, a recount will be held and if the tally does not change the candidates will draw for the position. If Meyer were to obtain the position on the Board two of the five West Brown Directors would

B-104

then be in a position of seriously questioning the Oahe Project (*).

Directors

William Oliver*
Dell or Meyer*
Virgil Locken
Robert Sharp
Dennis Jones

Officers

Harold Smith
Laverne Swenson

REFERENDUM

"Do you favor the completion of the Oahe Irrigation Project and the West Brown Irrigation District's position of continuing to seek funding for the projects early completion?"

YES- 179 (52%) NO- 167 (48%)

Note- This represents only landowners in the Irrigation District, landowners who stand to benefit if the Oahe Project were constructed and were successful. It does not include those landowners who petitioned their lands out of the District earlier on because they did not support the project. In a special election held in 1969, 83% of the Irrigation District landowners supported the project. This referendum proves massive deterioration of support for the Oahe Project in Brown County as well as among irrigation landowners.

B-105

Oahe Unit

West Brown and Spink County Irrigation Districts

History and Formation

Originally the Oahe Unit called for a plan to develop a 495,000 acre irrigation project in the James River Valley in Spink and Brown Counties of South Dakota. The total figure was decreased to 190,000 acres because of early opposition to the project. There was no attempt made to form an irrigation district in Eastern Brown County, East of the James River.

1964- Landowners questioning or opposed to the project were encouraged to petition their land out of the proposed project and irrigation districts with the assurance that the project delivery system would be underground pipe and they would not be affected. Based on that assurance 525 landowners petitioned their land out of the project and thereby lost their right to vote. Bureau studies later showed a pipe deliver system would not be feasible and that open canals would have to be used.

West Brown Irrigation District	153	petitioned out
Spink County Irrigation District	372	petitioned out
Total	525	landowners petitioned out

1965- The Irrigation districts were formed with the remaining landowners in the Oahe Project Area.

West Brown Irrigation District	222	for farming (82%)
	48	against (18%)
	370	

Spink County Irrigation District	330	for farming (83%)
	69	against (17%)
	399	

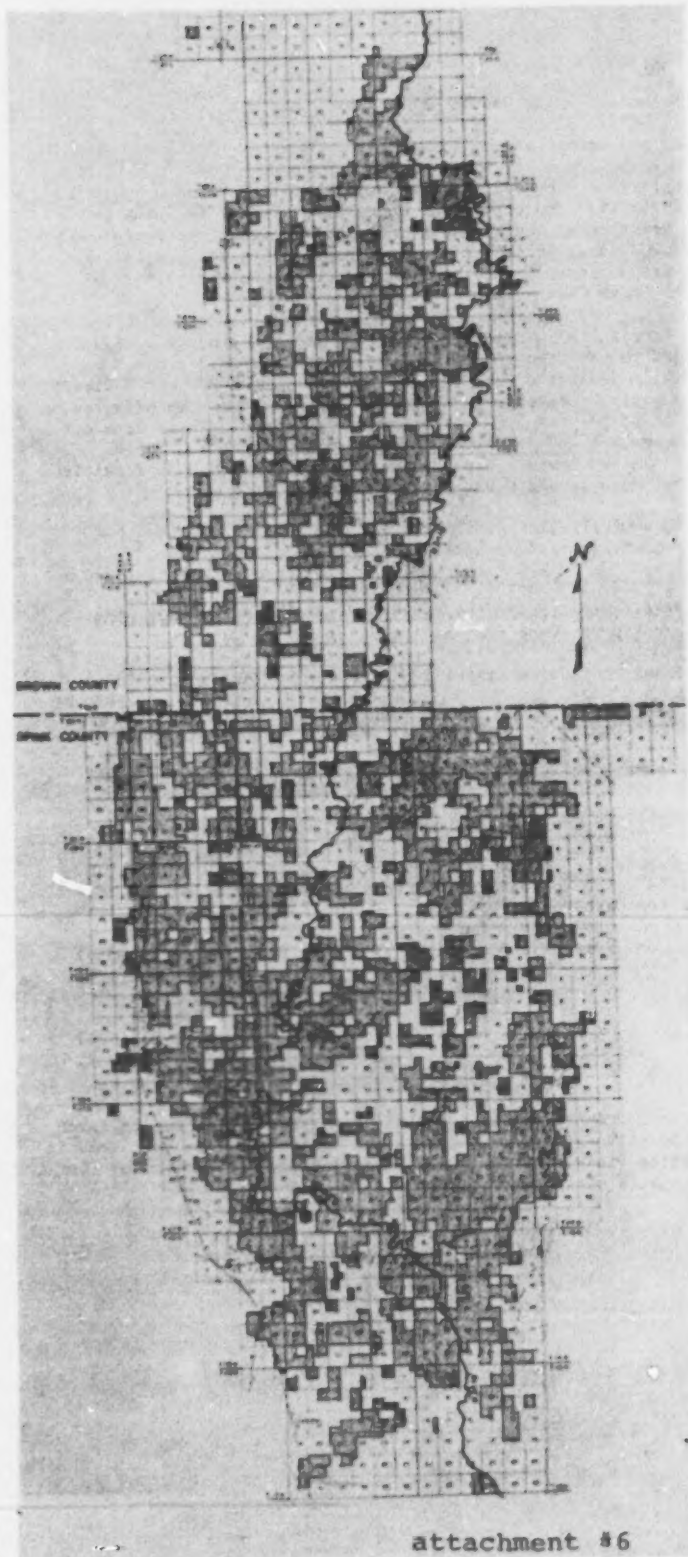
1969- Landowners in the West Brown and Spink County Irrigation districts voted on approval of repayment and participating contracts for Oahe Unit.

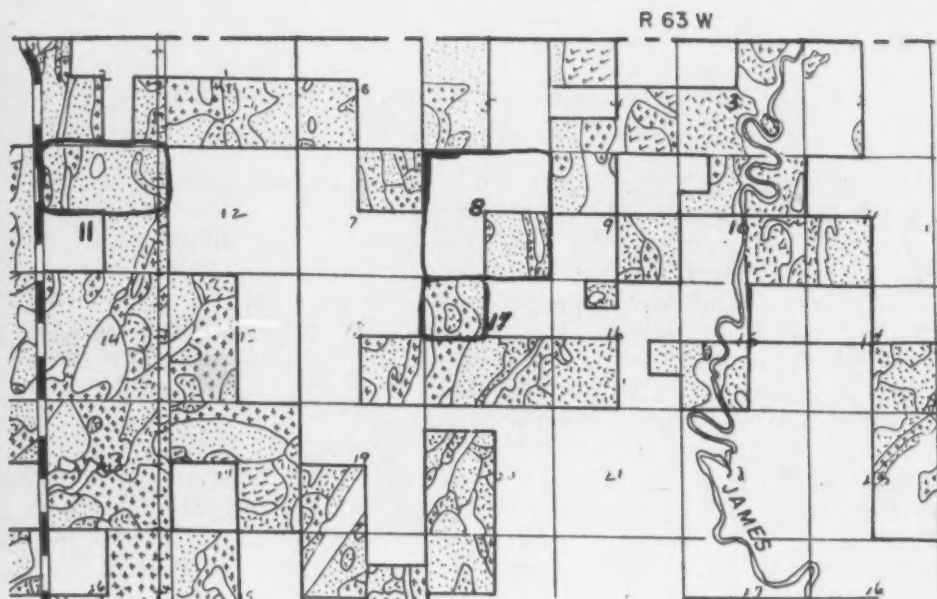
West Brown Irrigation District	173	for approval (83%)
	35	against (17%)
	208	

Spink County Irrigation District	212	for approval (77%)
	63	against (23%)
	275	

1977- West Brown Irrigation District referendum.... "Do you favor the completion of the Oahe Irrigation Project and the West Brown's Irrigation District's position of continuing to seek funding for the projects early completion?"

Yes-	179	(52%)
No-	167	(48%)
	346	





EXPLANATION

Arable land



Class 1



Class 2



Class 3

Potentially arable



Class 4

Nonarable



Class 5

— 10' sill line

attachment

— Irrigation district boundary

#7

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
MISSOURI RIVER BASIN PROJECT
JAMES DIVISION - S. DAK.
OAHU UNIT
GENERAL LAND CLASSIFICATION MAP
INITIAL STAGE DEVELOPMENT

HURON, S. DAK.

5-20-69
SHEET 2 OF 4

469-602-4157

Senator MURKOWSKI. Well, thank you, Mr. Fischbach. Please proceed, Mr. Haven.

**STATEMENT OF DENNIS HAVEN, VICE CHAIRMAN,
SPINK COUNTY IRRIGATION DISTRICT**

Mr. HAVEN. Well, my name is not on the agenda, and I'll try to keep it real short. It's like Art said——

Senator MURKOWSKI. Mr. Dennis Haven, vice chairman of the Spink County Irrigation District.

Mr. HAVEN. Our view's pretty much the same as Art's, the Spink County Irrigation Board. We feel that the project was originally designed for our land right in our area, the Spink County Irrigation District, Brown County, and everybody is trying to get a piece of the action now that it looks like we don't want it.

What we want to do basically is get rid of it, get it off of our hands, get the monkey off of our backs, and if anybody wants to pick up the low-interest rates from the U.S. Government, they are perfectly entitled to it, but we don't feel we should be under our obligation yet while they are monkeying around trying to get themselves a project going.

We are right in the heart of the project; it was designed for us, but we just don't want it; we are trying to give it back to you. If our contracts were here, we would just—you could just have them. I mean, that's the way we feel.

And if the other guys want to pick up a project on their own and it will stand on its own merits, they should probably start from the ground level and go ahead and build one, but we don't feel like we should be taking half of our obligation and throwing it into their project.

So, I will just conclude this testimony.

Senator MURKOWSKI. Thank you, Mr. Haven.

Mr. Oliver?

**STATEMENT OF WILLIAM OLIVER, CHAIRMAN, WEST BROWN
IRRIGATION DISTRICT BOARD OF DIRECTORS**

Mr. OLIVER. Well, I have got a lot here I could read, Mr. Chairman, but let's get to Senate bill 1553. The West Brown Irrigation District has reviewed Senate bill 1553 and has viewed it in a spirit of compromise. On September 1, 1981, the West Brown Irrigation District Board of Directors adopted a resolution in response to Senate bill 1553 which outlines our position on the legislation—see attachment 2.

And I will read our position.

Whereas, the Irrigation District Board of Directors does not support legislation SB 1553 as written, because the legislation would remove the decision of the Oahe Project from local control and place it in the hands of the State and Federal officials without providing necessary legal assurance that the old Oahe Project will not be built;

Therefore, be it resolved, that the West Brown Irrigation District Board of Directors does hereby go on record supporting SB 1553 if it were amended to include specific language which would strike all features from the Oahe Unit authorization in 1968 but the following:

Pierre pumping plant, Pierre Canal, reach 1-A and 1-B, low-cost interest, low-cost pumping, and Federal hydrosubsidy to pay for construction.

Further resolve, that existing contracts related to Oahe Unit are non-negotiable except between the Irrigation Districts, the Oahe Conservancy Subdistrict, and the Federal government, and once the project features which are most unacceptable are removed and deauthorized, the contracts would be settled and voided.

Well, that part we would kind of like to have done, Mr. Chairman. Shall I go any further? How much more time do we get?

Senator MURKOWSKI. Please summarize your remarks.

Mr. OLIVER. Well, I am going to summarize mine on the end here by the Governor that we had years ago, he had a lot of foresight, and I want to quote the former Governor. I conclude with a statement by former Republican Gov. Nils Boe, who is commenting about the Oahe in 1965:

My own experience dictates that these people will not accept that which is not known to them, or that presented in a form from which the effects are not reasonably apparent to them, or that which they may consider to be a pig in the poke.

And I think that's what we have when we have the Oahe project presented to us. Thank you, Mr. Chairman.

[The prepared statement of Mr. Oliver follows:]

Testimony of The
WEST BROWN IRRIGATION DISTRICT
BOARD OF DIRECTORS

Presented To
SENATE SUBCOMMITTEE ON WATER AND POWER
September 12, 1981

Mr. Chairman, and members of the Senate Subcommittee on Energy and Water. My name is William Oliver, from Rural Route, Warner, South Dakota. I am the Chairman of the WEST BROWN IRRIGATION DISTRICT BOARD OF DIRECTORS and am presenting testimony on behalf of the the District today. I farm in Rondell Township in Brown County, which lies within Division # 5 of the proposed Oahe Unit Irrigation Project. My farm is located along the west side of the James River near the Brown County-Spink County line.

By way of backround, I am also a member of the James River Flood Control Association and served on the "Governor James River Citizen's Advisory Group" in 1975 representing the Fourth Planning and Development District. I have served on the local township Board and have been active in several county farm organizations.

The West Brown Irrigation District is one of three local contracting entities involved in the Oahe Unit Irrigation Project. Of the 190,000 acres of irrigation proposed to be served by Oahe Unit, approximately 50,000 acres would be located in the West Brown Irrigation District.

Comments With Regard To SB-1553

The legislation before this Subcommittee, Senate Bill 1553, calls for cancellation of the three contracts related to the construction, operation, and repayment of the Oahe Unit as authorized, the Master Contract, the Participating Contracts, and the Security Contracts. It also calls for the funding of studies and construction of other water projects in South Dakota "in-lieu of" or in place of the Oahe Unit and the Pollock-Herried Irrigation Projects.

The West Brown Irrigation District Board of Directors has been in support of deauthorization of Oahe Unit for over a year now. We supported legislation offered in 1978 by then Senator James Abourezk to deauthorize Oahe, which was then re-introduced by Congressman Berkley Bedell. (see attachment #1) This legislation calls for straight out deauthorization of Oahe Unit, cancels all obligations for any costs incurred, and releases the federal government from construction of what now is a \$913 million dollar project. I still feel this is the best way to resolve Oahe, and assure that the threat Oahe represents to our area is removed.

Our politicians have assured us that they acknowledge that the Oahe Irrigation Project is unacceptable and should not be built. They are advocating that instead of straight out deauthorization, that the Oahe Unit be traded for some other water development in South Dakota. We can support this notion as long as the old Oahe plan is deauthorized or at least partially deauthorized, and we are given legal assurance that it will not be constructed.

The West Brown Irrigation District Board has reviewed Senate Bill 1553 and has viewed it in a spirit of compromise. On September 1, 1981 the West Brown Irrigation District Board of Directors adopted a resolution in response to SB 1553, which outlines our position on the legislation. (see attachment #2). In summary, the heart of our position on the bill is as follows;

"Whereas, the Irrigation District Board of Directors does not support legislation SB 1553 as written, because the legislation would remove the decision on the Oahe Project from local control and place it in the hands of the State and Federal officials without providing necessary legal assurance that the old Oahe Project will not be built;

Therefore be it resolved, that the West Brown Irrigation District Board of Directors does hereby go on record supporting SB 1553 if it were amended to include specific language which would strike all features from the Oahe Unit authorization (of 1968) but the following;

- Pierre Pumping Plant
- Pierre Canal - Reach 1-A and 1-B
- Low cost interest (authorized at 3 1/8th%)
- Low cost pumping power (authorized at 2.5 mills per KWH)
- Federal hydro-subsidy to pay for construction (90%)

Further resolve, that existing contracts related to Oahe Unit are non-negotiable except between the Irrigation Districts, the Oahe Conservancy Sub-district, and the Federal government, and once the project features which are most unacceptable are removed and deauthorized, the contracts would be settled and voided."

Let me explain the reasons for the change we suggest in SB 1553. We feel the only way to assure that the old Oahe Project plan will not be constructed in our area is to strike the features from the Oahe authorization which would serve the project lands, as well as the project lands themselves. We feel Blunt Reservoir should be dropped from the authorization (1) because early plans stated the reservoir was not needed for the ultimate stage Oahe Unit, (2) there are serious questions about whether the dam will hold water or not because the proposed site is underlaid with gravel, (3) other storage areas exist in Hyde, Hand, Beadle, and southern counties which desire the canal for their proposals, (4) the Irrigation Board felt leaving areas where funds had been expended on construction was enough, and (5) the 42,000 + acre potential land loss associated with the proposed Blunt Reservoir site in not

justifiable regardless of where the irrigation project may be located.

Secondly, the West Brown Irrigation District did not support leaving proposed canals beyond the Pierre Canal reach 1-A and 1-B authorized because (1) those canals were designed to deliver water to the West Lake and East Lake Plain area in Brown and Spink Counties, which is the old Oahe Project plan which has been found unacceptable, and (2) earlier government studies of the area have found from 1960 to 1975 that no major amount of irrigable land exists along the routes of those canals - Highmore Canal, Faulkton Canal, etc. We feel that if other project areas are identified then canal routes should be designed and authorized to serve those project lands, there is no assurance that the canal routes authorized for Oahe Unit would serve those lands at the least cost.

We have studied Section 3 of SB 1553, which deals with the canceling of contracts. The Irrigation District has studied the Oahe related contracts for some time, and we question whether Congress or Interior can cancel the contracts without (1) first deauthorizing the Oahe Unit Project, and (2) reaching an agreement with the other contract parties. The contracts were validated by a court of law in April of 1971 and by the South Dakota State Legislature in the spring of that same year. Further, Interior Solicitor's opinions in 1978 state the following;

"...I would suggest that prior to any deauthorization of the Oahe Unit, we provide for the bilateral termination of the existing repayment contracts." (August 2, 1978 Field Solicitor to Regional Director, BOR) (emphasis added)

"...an abundance of caution might lead the Department to follow the Field Solicitor's suggestion for obtaining bilateral termination of the repayment contracts." (November 3, 1978, Interior Solicitor to Oahe Sub-district) (emphasis added)

Therefore, the West Brown Irrigation District would request that SB 1553 be amended to include a provision for bilateral cancellation of contracts. We would recommend that Section 3 (a) of SB 1553 be amended to read as follows;

(add) "... provided that cancellation of the Master Contract, Participating, and Security Contracts shall be by unilateral agreement among the contracting parties."

As our resolution on SB 1553 states, Congress authorized Oahe Unit in 1968 based upon House Document #163 (90th Congress, 1st session, August 31, 1967), which called for construction of specific features for delivery of water specifically to irrigation lands in Brown and Spink Counties.

"The 190,000 acres proposed for irrigation in the Initial Stage lie in the Lake Plain area adjacent to the James River in Brown and Spink Counties in north-eastern South Dakota..." (H.D. #163, page XXIV, and 24)

As I've stated earlier, we would feel more comfortable if the entire 1968 Oahe Authorization were deauthorized for this very reason. However, we would support partial deauthorization leaving part of the features and benefits intact providing that specific features are deleted from the existing authorization, and language is included in legislation to legally assure that the old project plan will not be constructed. We would therefore recommend that Section 3 (b) of SB 1553 be amended to include the following;

"All features of Oahe Unit, authorized in 1968 by Congress for construction shall hereafter be considered deauthorized and deleted from the authorization except for the following features, which shall remain authorized pending outcome of studies included in this Act;

Pierre Pumping Plant
 Pierre Canal - Reaches 1-A and 1-B
 Low cost interests (3 1/8th %)
 Low cost pumping power (2 1/2 mills per killo-watt hour)
 Federal hydro-subsidy for construction (90%)

A recent letter from the Bureau of Reclamation to the Oahe Sub-district, dated August 31, 1981, confirms the need for this type of addition to the bill to assure that there is not mis-understanding if the bill is adopted by Congress. The letter states....."we do not believe the bill (SB 1553) as written would necessarily remove any features from the existing Oahe authorization." That's just what we figured they would say. Therefore, the legislation should be made specific so that everyone knows what is and is not left authorized, once the bill is adopted,

Also, a November 30, 1979 Interior Solicitor's opinion states the following, which also confirms our point;

"...under the project authorization act (1968), the contracts are an inherent part of the construction, operation, and reimbursement of the Oahe Project. By terminating contracts at this time the Secretary (of Interior) in effect would be deauthorizing the project. Only Congress has the power to deauthorize the Oahe Project. The Secretary cannot deviate from the basic purposes of a project as defined by Congress in the authorizing Act." (emphasis added)

Why Oahe Has Lost Local Support

This Subcommittee, and Congress, may wonder why the landowners in the West Brown Irrigation area who were proposed to receive the "benefits" of the Oahe Project, now support deauthorization through election of representatives to the Irrigation District Board. There are several reasons for this, which I feel this Committee and Congress should be aware of.

(Why Oahe Has Lost Local Support - cont'd)

1. The vote to form the West Brown Irrigation District was held in January of 1965. Very little was known about the project plans. At meetings that were held people were assured that the plans were "subject to change". Those who were not infavor of the project were encouraged to petition their lands out of the Irrigation District, and were assured that they would not be bothered by the project. When they petitioned out they lost their right to vote in W-Brown Irrigation District elections in the future, when decision on the project would be made. As a result 153 landowners petitioned out. The vote was held with 222 voting in favor of forming the Irrigation District, and 48 against. Had the petitioned out landowners been allowed to vote, the district would have been formed by a small margin of only 21 votes. This is an important point, because years later we found out that all lands in the Lake Plain area were going to be impacted by the project canals, open drainage ditches, and raising the water table to within 3 feet of the soil surface. The entire community would be effected, but those who petitioned their lands out would have no say on what the project did to their lands.
2. Project plans and reports were presented as indefinite and flexible, subject to change during the period that the voting was going on to form the District in 1965, and to vote to give the irrigation board authority to sign the contracts obligating lands to the project. After the election on contracts was held, the Definate Plan Report was made available in 1971, and the Environmental Impact Statement (EIS) was published and made available in 1973. These two documents were obtained by landowners and studied, and for the first time people began to realize how the project would impact the community. That is when the opposition to the project started in the West Brown Irrigation District area. Had that specific information been available to farmers and landowners in the district prior to 1965 or 1969 the Irrigation District would not have been formed and the contracts would not have been signed. I firmly believe that, as one landowner who supported the project during that period.
3. The changing of the water table from 4 feet to 3 feet between 1960 and 1965, reduced the number of buried drain tiles authorized as part of the project plan, and thereby reduced the total construction cost of the project. I believe that the project drainage tile was cut in half on a per acre basis. We were informed that this was done because of 'new information' gathered on soils. However, under oath in 1976 the Bureau of Reclamations soil specialist testified that the change was ' administrative decision', and he admitted that allowing the water table to rise from 4 feet to 3 feet would provide an added risk

(Why Oahe Has Lost Local Support - cont'd)

that the land could be lost to seepage, salts, and water logging. When total miles of tile drains were cut per section, the Bureau of Reclamation knew that it was wrong, but they justified doing it on the basis that they had to cut cost to get the project authorized and started. Previous studies by independent experts, and confirmed by the Bureau, stated that the water table should not be allowed to rise above 4 feet from the soil surface. If it did it would cause salting of soils in the root zone, water logging, and reduce production. In short, the Bureau of Reclamation made an administrative decision to reduce the tile drain for the project and were willing to risk the future productivity of the 190,000 acres in the irrigation area in order to get the project authorized and constructed. The problem was they were gambling with someone else's land. By nature farmers are gamblers, but in this case the risk involved was just too great, and they resent the Bureau officials making that kind of decision involving their property. The result was the project lost a lot of support because of this decision.

4. The effect the rise in water table would have on lands within the district a major concern. For example there are about 160,000 acres of land within the 10 foot silt line which makes up the outer boundaries of the West Brown area. Of that amount, some 91,000 acres are in the West Brown Irrigation District and are taxed by the District. Of the 91,000 acres in the District, 59,500 acres, or about 65%, are proposed to be served irrigation water by the project (Project Fact Sheets, Bureau of Reclamation, 1976, page 12). That leaves about 32,000 acres of land in the West Brown Irrigation District which is not irrigated, and this is mostly class 5s, class 5d, and class 6 land. If you will look at a soils map of the irrigation area you will see that these class 5 and class 6 lands are intermingled with irrigable lands. There are very few cases where there is a quarter of land that is all irrigable lands. The Bureau of Reclamation left most of these lands out because once irrigation was established in the Lake Plain area the average water table would rise to within 3 feet of soil surface and most of these lands would be lost to seepage, salts, and water logging because of their elevation or soil texture which wouldn't allow for proper drainage. A good example of this is a half-section of land I farm, the south half of Section 23, T121, Range 63. Bureau of Reclamation soils maps (469-602-4096) show that 178.7 acres of this land are classified as irrigable, and 132.5 acres are classified as class 6 land, non-irrigable. If you will look at a map of the area

(attachment #3) you will see that the white area going through the middle of the half-section of lands is class 6 land, as classified by the Bureau of Reclamation. That is a low area, approximately 10 to 15 feet lower than the surrounding land in the area. I farm the land now, and it is good productive land, but with an average water table of 3 feet from the soil surface over the project area, that 132 acres of farm land would be lost to seepage. Right now I farm the entire half-section, except for a building site.

5. Another concern was the cutting up of tracts of farm land by open canals and ditches which would be constructed as part of the project plan. These canals and ditches would be constructed on lands in the irrigation district as well as those lands that were outside the district. The plan called for approximately 3/4 mile of open ditch drains and 3/4 mile open delivery canals for every 160 acres irrigated by the project. Enclosed are two maps of the Northville block area which show how project drains and delivery canals would have impacted the farming community (attachment #4 and #5). Parcels of land normally farmed in 80-160 acre lots would be cut up into small lots which would be harder to farm.
6. Another reason for opposition to the project in the West Brown Irrigation area was the incredible land loss that would be required to construct the project. A total of 110,000 acres of land would be taken out of production to irrigate 190,000 acres. That is 11 acres lost for every 19 acres irrigated. Farmers and landowners in the area had a hard time justifying this. If you add on the 38,000 acres of land loss anticipated along the James River due to flooding caused by the project, you have a total of 148,000 acres lost to irrigate 190,000 acres. Add in 73,000 acres of class 6 lands, there could be a loss of 22 acres to irrigate 19 acres.
7. Another reason was the way the Bureau of Reclamation calculated the projects benefit/cost (B/C) ratio. They determined Oahe was feasible based on 90% parity. I've been farming for a long time and I can't remember when we received 90% parity for what we produced. They figured that a farmers labor was worth \$1 hour, which is unrealistic as far as determining feasibility. I'd agree that farmers do a lot of things now for a \$1 an hour or less, but that doesn't mean we're looking for more deals like that. Production was also over stated in project feasibility estimates. Anticipated crop yields exceeded what is currently being raised on irrigated farms in the area. In any event, production is not the answer to whether a farmer makes money. The price he receives is the determining factor. We could be worse off with more production

In fact.

The Bureau of Reclamation figured farmers would only be able to pay 65¢ to \$4.70 per acre irrigated, or an average of \$2.85 per acre. (Attachment #6) Considering the risk involved, the \$4,800 dollar investment per acre, and the additional work and expense to irrigate,...If that's all we can afford to pay, and if the margin is that slim then we don't think we should get into it.

8. Another concern was that the Irrigation Districts would be responsible for any water pollution that might result from the project. Plans showed that the project would violate State and Federal water quality standards and effect the City of Huron's water supply. The Bureau of Reclamation proposed that they would handle it with a "Management Plan" which would regulate how much fertilizer and chemicals were put on each irrigated acre. Farmers, faced with an annual water bill and larger operational costs would be forced to try to raise maximum yields, requiring more fertilizers and chemicals. Controlling these things to reduce poor quality return-flows draining off the fields would require massive government management and control of farming practices, which in my opinion would not work, and if they did, would make the project unacceptable to the farmer. While I served on the Governor's James River Citizens Advisory Committee, we were informed by State and Federal environmental officials that return flow waters would be monitored as they came off each quarter section of land that was irrigated. This monitoring would take place over the first 10 to 20 years the project was in operation, and if the water samples exceeded the acceptable levels the irrigator could be shut off or some new management program forced to be applied. Either that or the irrigators would have been forced to provide the City of Huron an alternate water supply if the problem became serious.
9. Probably the biggest problem with Oahe Unit, was the fact that the project represents an unlimited tax obligation or federal lien on the lands in the Irrigation Districts. Under South Dakota law, irrigation districts have unlimited taxing authority. Contracts which obligate the West Brown Irrigation District to Oahe Unit, require that we use our full tax powers if necessary to meet project costs. The Oahe Conservancy Sub-district is also obligated to the project, however, not to the extent that the Irrigation Districts are. There are a lot of interests that promote Oahe;...Governors, politicians, bankers, legislators, contractors, county extension agents,

and businessmen. But when you really get down to the bottom line, it's the 190,000 acres in the irrigation districts that are obligated to the project. Most of those who promote the loudest, have the least to lose if the project goes bad. I call them "cheerleaders". After the project is built and money has been made, they'll be long gone. But we have to live with it. People just don't have that much faith in the government plan.

10. Another major concern was that flooding problems on the James River would be increased. House Document #163 indicates that while flooding would be shorter in duration, flooding would occur more often. The way the James River lays, once we are flooded it doesn't matter if it's two feet or six inches, we are flooded. It just takes a long time to get the land back in condition so it can be farmed again. More frequent flooding, even though the duration is shorter, is not going to help us at all. We'll just lose the bottom land more often.

Conclusion

In conclusion, the West Brown Irrigation District requests that changes be made in SB 1553 to assure that (1) the Oahe Unit plan as authorized is not constructed, (2) that features aimed at the Lake Plain area are deleted from the authorization, and (3) that amendment be added to provide for "bilateral" cancellation of contracts.

Further, any negotiations or discussions which relate to the Oahe Unit contracts should involve all contracting parties, the Irrigation Districts and the Sub-district. Others, such as the Congressional Delegation and the State could be involved also, but the contracting entities must be included.

We question how serious all parties are to negotiating a settlement on Oahe Unit. We have stated our position clearly. All interests in the State, including the Governor and the Congressional Delegation, say that Oahe Unit should not be built. If that is really their position they should be able to support the position we have outlined. However, the idea of taking the contracts away from the local contracting entities, and leaving the authorization intact so that the project could be constructed at some future time, has been proposed from time to time by Bureau of Reclamation officials, the Governor, and Senator Abdnor. Aside from the legal and legislative ramifications of such an act, Congress should be advised to avoid such action. Legal and legislative maneuvers will not change the fact that the Oahe Unit Irrigation Project is currently authorized by Congress does not enjoy the

local support of the people it was supposed to benefit. The people who live on the land now, were here when the Bureau came in with their plans in the 1960's, and they will be here if you try to send the project back at some future time.

I would conclude with a statement by former Republican Governor Nils Boe, who in commenting about Oahe said in 1965...."My own experience dictates that these people will not accept that which is not known to them, or that presented in a form from which the effects are not reasonably apparent to them, or that which they may consider to be a pig in a poke." That about says it all.

Congressional Record

THE 96th CONGRESS, FIRST SESSION

WEDNESDAY, NOVEMBER 7, 1979

No. 156

46. —

A bill to deauthorize the construction of the irrigation project for the Oshe unit, James division, Missouri River Basin project in South Dakota, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled: That the construction, operation, and maintenance by the Secretary of the Interior (hereinafter referred to as the "Secretary") of the initial stage Oshe unit, James division, Missouri River Basin project, South Dakota, authorized by the Acts of August 3, 1958 (Public Law 85-453; 82 Stat. 624), and October 27, 1972 (Public Law 92-577; 86 Stat. 1265), for the purpose of furnishing a surface irrigation water supply and for other purposes, is hereby deauthorized and is no longer an integral physical or financial part of the comprehensive Pick-Sloan Missouri Basin Program that was approved by section 9 of the Act of December 22, 1944 (58 Stat. 891), as amended and supplemented.

Sec. 2. Within 3 months following the date of enactment of this Act, the Secretary shall submit to the Congress his recommendations for the disposition of those Oshe unit works, facilities, and related properties that have been acquired or constructed. Such recommendations shall be developed by the Secretary in cooperation with the local contracting entity Oshe Conservancy Sub-District in consultation with other Federal agencies and the general public. The Secretary is hereby authorized to implement such recommendations, except that no appropriation shall be used for implementing such recommendations for disposition of the Oshe unit works, facilities, and related properties prior to 6 calendar days from the date on which the Secretary's recommendations have been submitted to the Congress.

Sec. 3. Those funds previously expended pursuant to authorities contained in the

Acts of August 3, 1958 (Public Law 85-453; 82 Stat. 624), and October 27, 1972 (Public Law 92-577; 86 Stat. 1265), shall be charged against the general fund of the Treasury of the United States and shall not be charged against the Pick-Sloan Missouri Basin Program, except that all costs assigned to the initial stage Oshe unit which are deferred without interest shall be retained as interest free costs of the Pick-Sloan Missouri River Basin Program.

Sec. 4. Those revenues derived from the disposition, under the authority of this Act, of Oshe unit works, facilities, and related properties shall be deposited to the general fund of the Treasury of the United States. Such properties shall not be disposed of at less than fair market value at the time of disposition, as determined by the Secretary. In such disposition, the Secretary is authorized, notwithstanding provisions of law to the contrary, to give first right of refusal for the purchase of such properties to previous owners of acquired property or their heirs, as the Secretary may determine.

Sec. 5. This Act is declared to be a supplement to the Reclamation Act of June 17, 1902 (32 Stat. 386), and acts amendatory and supplementary thereto, which shall govern the implementation of this Act except as otherwise provided herein.

Sec. 6. There are authorized to be appropriated such sums as may be required to carry out the provisions of this Act for fiscal years beginning after September 30, 1979.

Sec. 7. Nothing contained in this Act is intended to interfere with the rights of the State of South Dakota as they pertain to the identification and development of alternative water development projects. It is the sense of Congress that the United States should honor its commitments to the State of South Dakota for financial and technical support of water development as compensation for losses incurred as a result of earlier commitments of resources for the Pick-Sloan Missouri River Basin Development in South Dakota. @

attachment #1

West Brown Irrigation District Board of Directors
Position on
Oahe Deauthorization and SB 1553

Whereas, since 1980, the West Brown Irrigation District Board of Directors has been on record in support of deauthorization of the Oahe Unit Irrigation Project, as outlined in legislation originally introduced by Senator James Abourezk and reintroduced by Congressman Bedell; and

Whereas, the Oahe Project, as planned and developed by the Bureau of Reclamation, and authorized in 1968 by Congress, is a questionable plan and lacking in the areas of; drainage, flooding, salting of soils, land classification, benefit-cost, checker boarding, and other factors; and

Whereas, the Oahe Unit plan is based upon House Document #163 and detailed plans approved by Congress in 1968, which identify project lands to be in the West Brown and Spink County Irrigation Districts, and the project is based upon three contracts, two of which obligate lands in the Irrigation Districts to construction, operation, and repayment of the project costs, and such contracts have been certified and finalized in a State Court of Law; and

Whereas, the only way to assure that the project will not be constructed as authorized and planned would be to deauthorize Oahe Unit.

Whereas, Congressional and State officials have met with federal Interior officials to discuss cancelling or altering the Irrigation Districts contracts and have excluded the District and other contract parties from these meetings, the result of which could be contrary to the interests of the District, and we join with the other contracting parties in protesting and objecting to these discussions and meetings; and

Whereas, the Irrigation District Board of Directors does not support legislation SB 1553 as written, because the legislation would remove the decision on the Oahe Project from local control and place it in the hands of the State and federal officials without providing necessary legal assurance that the old Oahe Project will not be built;

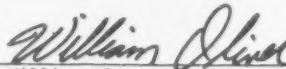
Therefore be it resolved, that the West Brown Irrigation District Board of Directors does hereby go on record supporting SB 1553 if it were amended to include specific language which would strike all features from the Oahe Unit authorization but the following;

Pierre Pumping Plant
Pierre Canal - 1A and 1B
Low Cost Interest
Low Cost Pumping Power
Federal hydro-subsidy to pay for construction 90%

Further resolve, that existing contracts related to Oahe Unit are non-negotiable except between the Irrigation Districts, the Oahe Conservancy Sub-district, and the federal government, and once the project features which are most unacceptable are removed and reauthorized, the contracts would be settled and voided.

Directors voting aye: Oliver, Larson, Meyers. Directors nay: Sharp, Jones.

Adopted this 1st day of September, 1981.

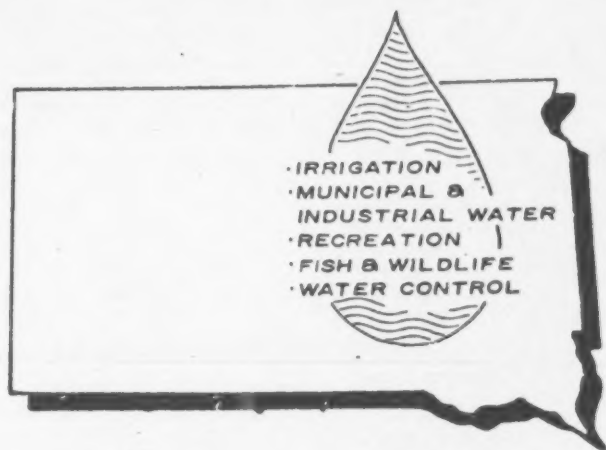


William Oliver, Chairman

"Information Sheets"

THE OAHE UNIT

PICK-SLOAN MISSOURI BASIN PROGRAM



Missouri-Oahe Projects Office
Bureau of Reclamation
Huron, South Dakota

Land in Irrigation Districts

	<u>West Brown</u>	<u>Spink County</u>	<u>Total</u>
Initial acreage	80,576	209,833	290,409
Added acreage	1/ 10,352	2/ 7,834	18,186
Total	90,928	217,667	308,595

- 1/ Brought into West Brown Irrigation District 5-22-72
Estimated arable acres: 6,000
- 2/ Brought into Spink County Irrigation District 4-22-71
Arable land classes 1, 2, & 3 totaled 5,000 acres and 5s - 600 acres

Land Class	Arable Acres			
	West Lake Plain		East Lake Plain	
	West Brown Irrig. Dist.	Spink County Irrig. Dist.	Spink County Irrig. Dist.	Total
	13,900	17,400	21,700	55,000
1	20,100	22,900	28,900	71,900
3	17,500	23,000	25,400	65,900
Estimated arable acres added in 1972 2/	6,000	--	--	6,000
Subtotal	59,500	63,300	76,000	198,800
5s 3/	5,400	5,800	16,800	28,000
Subtotal arable	64,900	69,100	92,800	1/ 226,800
5d 4/	800	100	700	1,600

- 1/ Acreage rounded. Includes 5,000 arable acres added to the Spink County Irrigation District in April 1971 (2,500 arable acres east and 2,500 acres west of the James River).
- 2/ Of the 10,352 acres added to the West Brown Irrigation District in May 1972, the arable acreage is estimated at 6,000 acres.
- 3/ Arable land, subject to modification of soil profile by deep plowing. In Spink County it includes 100 acres of 5s land west of James River and 500 acres east of James River that were added in 1971.
- 4/ Potentially arable, subject to development of James River Channel Improvement Plan.

Irrigable Acreage

It is estimated that the acreage of irrigable lands will average between 6 and 8 percent less than the arable land classes.

Sec 23 T 121 N R 63 W



LAND CLASS ACREAGE SUMMARY							
CLASS	1	2	3	ARABLE	6	ROW	TOTAL
NESW		3	5.0	5.3	94.7		100.0
NWSW			29.0	29.0	10.0	1.0	100.0
SWSW		22	10.7	12.9	29.9	2.2	100.0
SESW		27.8	8.8	36.6	2.2	1.2	100.0
NESE	8		12.8	13.6	25.9	1.0	100.0
NWSE			13.0	13.0	27.0		100.0
SWSE	13.9	5.3	13.3	30.5	8.3	1.2	100.0
SESE	30.3		7.3	37.8		2.2	100.0
TOTAL	45.2	33.6	99.9	178.7	132.5	8.8	320.0

EXPLANATION

Arable land



Class 1



Class 2



Class 3

Potentially arable



Class 5

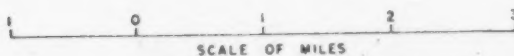
Nonarable



Class 6

--- 10' silt line

--- Irrigation district boundary



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

MISSOURI RIVER BASIN PROJECT
JAMES DIVISION - S. DAK.

OAHE UNIT

GENERAL LAND CLASSIFICATION MAP
INITIAL STAGE DEVELOPMENT

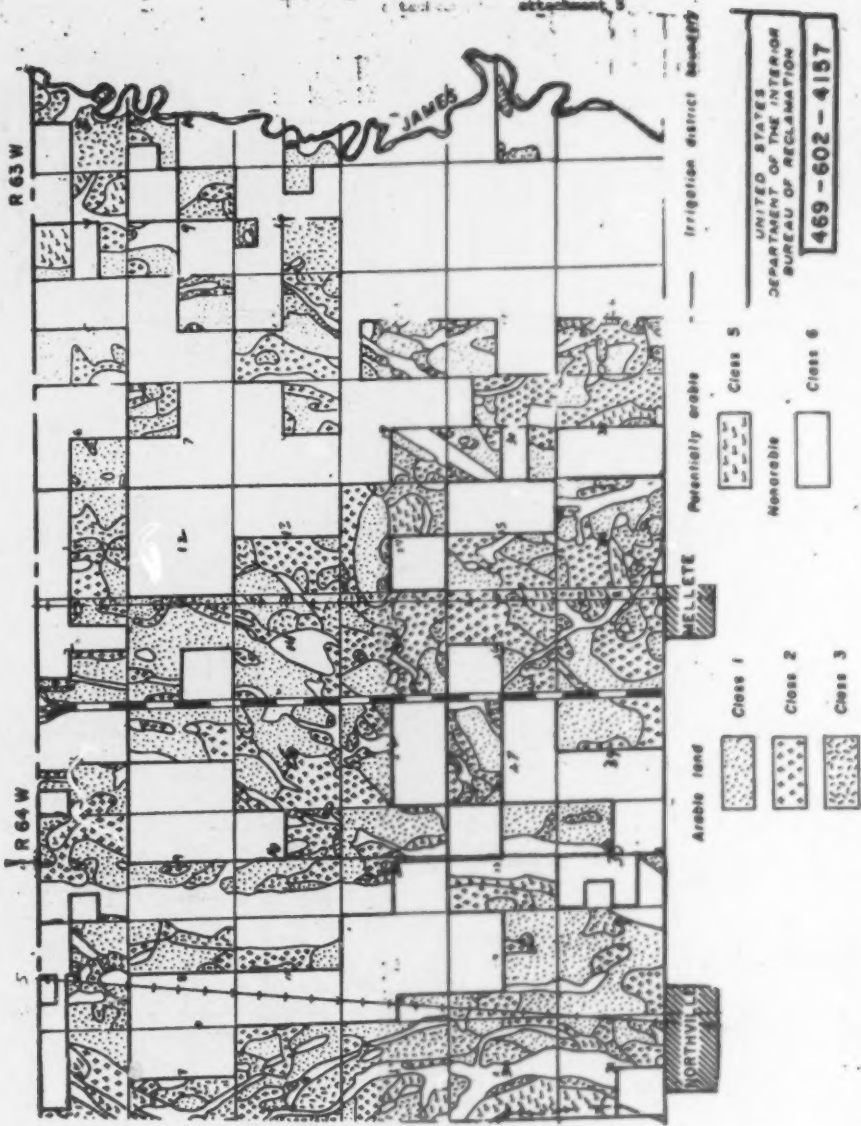
DRAWN... C.H.B. ... SUBMITTED...

TRACED... C.H.B. ... RECOMMENDED...

CHECKED... APPROVED...

HURON, S. DAK. SHEET 3-20-69 3 OF 4 469-602-4158

attachment # 3





United States Department of the Interior

BUREAU OF RECLAMATION

Upper Missouri Region

Missouri-Oahe Projects Office

P.O. Box 826

Huron, South Dakota 57350

IN REPLY REFER TO 115
832.-

NOV 16 1976

Mr. Robert E. Raschke
Manager-Treasurer
Oahe Conservancy Sub-District
P.O. Box 78
Huron, South Dakota 57350

Dear Mr. Raschke:

In response to your letter of July 27, 1976, we are submitting our updated estimate of the operation, maintenance, and replacement costs (OM&R) for the Initial Stage, Oahe Unit, and the estimated tax levies required by the Oahe Conservancy Sub-District to meet these obligations.

This cost estimate and payout is based on the January 1976 price level and reflects the inflationary increase since our last OM&R estimate which was based on the January 1970 price level.

Total OM&R at full development of the Unit is estimated at \$2,513,000 of which about \$2,250,000 is allocated to irrigation. This amounts to \$11.85 per acre. Total water charges by land class would be as follows:

Estimated Water Charges			
Land class	Estimated OM&R (per acre)	Repayment by contract (per acre)	Total estimated water charge (per acre)
1	\$11.85	\$4.70	\$16.55
2	11.85	2.85	14.70
3	11.85	.65	12.50
Weighted average	\$11.85	\$2.62	\$14.47



Attachment # 6

Our analysis indicates the following mill levies would need to be submitted to the county auditors in January of each respective year specifically for the Sub-District's obligations under Master Contract No. 14-06-600-10,079:

	<u>Mill levy</u>
January 1977	0.1
January 1978	0.2
January 1979	0.3
For next 10 years	0.4
For next 10 years	0.3
For next 2 years	0.2
For next 1 year	0.1
For next 3 years	0.05

Mill levy continues to decline to 0.001 until payout completed.

Sincerely yours,

Preston L. Funkhouser, Jr.
Project Manager

Enclosure

George H. Carey . . . Acting

Attachment # 6

Senator MURKOWSKI. Thank you very much, Mr. Oliver, and we appreciate—

Mr. FISCHBACH. We have been aware of talks about our contracts being made. We hold some mortgages on our lands and we ask that we participate with security contracts. We do not think it's right that the talks are being held about what to do without us being involved, and we would like that drawn to the attention of the committee and sent back to Washington.

It just appears to us that if we are going to accept—to agree to stand hard and fast until we are just treated right as contract holders. We have no assurance that we are not going to be run over once we do reissue them unless we get it deauthorized. We would hope you are getting that from our testimony.

Senator MURKOWSKI. Your testimony, of course, will be examined by the entire membership on the committee, and the importance of your specific statement on the conclusion of your remarks will be considered. Thank you.

Mr. FISCHBACH. Mr. Chairman, the only other thing is that—

Senator MURKOWSKI. I must ask in fairness to the others, that you have had your opportunity to make your presentation. I think that's sufficient. Thank you, gentlemen, we appreciate your testimony.

The next witness will be Mr. Frank Dixon of the West Brown Irrigation District, accompanied by Mr. Virgil Locken. We would ask, gentlemen, that you come up to the witness table, and we welcome you to the committee.

STATEMENT OF FRANK DIXON, WEST BROWN IRRIGATION DISTRICT

Mr. DIXON. Thank you, Mr. Chairman. In lieu of lack of time, I will try to speed my testimony up. I am Frank Dixon from Aberdeen, South Dakota. I own land in the West Brown Irrigation District. I am very much interested in seeing we get some water in Brown County.

Mr. Robert Sharp, who has been a member of the West Brown Irrigation District since its inception, we understand he is not here, I would like to high point a couple of points in this letter that he has here, that mainly 20 years ago, a lot of people did a lot of hard work in order to get a general multi-use project approved for South Dakota.

If it were not for those two contracts, we wouldn't even be here talking. And now to most of us, deauthorization is unthinkable. It's extremely important that before we cancel our contracts, we have spelled out what we will receive in return.

I believe the United States and the State of South Dakota should give the people of Brown County the proper guidance and insurance that we will at least have a major portion of our original contract for water through a modified Garrison or a modified Oahe plan before we tear up our contracts.

Please, let's sit down and try to make sense for water. I am asking you gentlemen and the rest of our delegation in Washington for this kind of leadership. Robert Sharp, member of Brown County, West Brown Irrigation Board.

Upon in Brown County, we have a very active United Family Farmers, very well financed experts in intimidation, and we have had some real problems in that area. We hear many comments in relationship to the type of water—we are bringing sludge over from the Missouri River—and we have constant news releases coming out about bad water for Brown County.

Not this just can't keep going on if we are going to get anyplace with it. We have some good contracts; if people want out of the irrigation district, for Heavens sake I hope we can work out some plan to let them out of the district so that the people who do want water can get the water, some benefits from our contracts.

When you look at the items since 1965, where we had the original Golden West Brown Irrigation District with 82.2 favorable vote, a special election to signing the contracts with 83 percent of the vote. We have had it to the Supreme Court to uphold the validity of our contracts, the 10,000 acres that went in in 1972, it was 100 percent in favor of getting into the project.

Mainly, we want to keep some water for Brown County, and gentlemen, we are going to have some petitions¹ in to you to support, some other people that couldn't take the time or write the letters to get down to you.

Thank you very much for your time. I want to cut it short.
[The letter from Mr. Sharp follows:]

BROWN COUNTY, S. DAK., September 11, 1981.

To Senator FRANK MUROWSKI and Senator JAMES ABDNOR.

I want to thank you for the opportunity to present my thoughts on water development for South Dakota. I have been a board member of the West Brown Irrigation District since its beginning. As you know, there has been many official elections on formation, contracts, etc., all of which have passed with an 80 percent plus margin in favor of development. It is my belief that this kind of support is still there.

I'm sure it is no secret that there is a very vocal group that for one reason or other has done everything in their power to block meaningful water development.

I agree with Governor Janklow that "Oahe" in its original form will not be built. I believe, as I always have, that there should be modifications to this plan; perhaps extensive. It has been 30 years since much of the planning has been done on the original unit. Therefore, we must address another generation and update our thinking.

Let us not forget that it is because of dedication and hard work by many people some 20 years ago, that we were able to get a general multi-purpose project contract with the federal government, with a very reasonable repayment rate and low power costs as a trade-off for land lost to flooding behind our great dams in South Dakota.

To most of us deauthorization is unthinkable. I am in favor of, and will support any worthwhile water project in South Dakota, whether it be Cendak or whatever.

It is extremely important that before we cancel our contracts, we have spelled out what we will receive in return. I believe the United States government and the State of South Dakota should give the people of Brown County the proper guidance and assurance that we will have at least a major portion of our original contract for water through a modified Garrison or a modified Oahe plan before we tear up our contracts.

Please, let's set down and try to make sense for water. I am asking you gentlemen and the rest of our delegation in Washington for this kind of leadership.

Thank you.

ROBERT SHARP.

¹ Petitions have been retained in committee files.

Senator MURKOWSKI. Thank you very much, Mr. Dixon.
Mr. Locken?

STATEMENT OF VIRGIL LOCKEN, BATH, S. DAK.

Mr. LOCKEN. Thank you, Mr. Chairman. I am Virgil Locken, and I live in the West Brown irrigation district. To save time, I am going to submit my written statement, but I will say that we are for the project, and there is a good many people out there that want the project as it was intended.

I thank you.

Senator MURKOWSKI. Thank you very much. We appreciate your making your point, and we will look forward to receiving your full remarks for the record.

We will now move and excuse you people, and we will call on Mr. Tom Fischbach, president of the United Family Farmers from Aberdeen. And he will be accompanied by a Mr. Stuck, treasurer, and Mr. Steve Kinsella and Mr. George Piper.

Mr. Fischbach, I would ask that you proceed with your panel's presentation. Again, I would request that you keep your remarks concise and to the point, and hopefully 3 minutes.

STATEMENT OF TOM FISCHBACH, PRESIDENT, UNITED FAMILY FARMERS, ABERDEEN, S. DAK.

Mr. FISCHBACH. Thank you, Mr. Chairman. My name is Tom Fischbach, and I am president of the United Family Farmers. The United Family Farmers was organized among farmers and landowners in the area of the proposed Oahe irrigation unit in 1973 before construction began on the Oahe project.

Farmers from Spink and Brown Counties joined with farmers from Beadle, Hand, Hughes, Sully, and other counties of the Oahe subdistrict. The United Family Farmers have always been at the heart of the Oahe controversy because we are the people who reside in the area where it is proposed for development.

At first we gathered every bit of information that we could get a hold of which would tell us something about the project. We went to every local, State, and Federal agency which had any part in the project planning. Our attempts to get information and decisive answers from the Bureau of Reclamation were often frustrating. Our letters to the Bureau were often answered with vague, factless responses.

The more we learned about the project, the less we liked it. With the little information we had, it became the collective decision of the people who had joined UFF that they did not want the project, and that we would organize to stop it and remove from further planning a threat which we considered to be a disaster to our farms and land.

First we asked for a moratorium on the project to allow for an independent study of the social, economic, and environmental implications of the project by qualified experts outside the Bureau. The Bureau openly warned that a moratorium would kill the project.

Senator Abourezk promised and sought a balanced forum to air the question on the project, which would have the status of a congressional hearing. This effort was abandoned when the Oahe proponents refused to participate.

The United Family Farmers spent thousands of dollars of our own money to seek an independent analysis of the Bureau's plan. These studies were in many areas, including economics and drainage. We would also like to submit these documents to the committee for the record.¹

We went to the State legislature and asked that they authorize a referendum on the project among the people in project area. The legislation proposing a referendum was openly opposed by the Oahe proponents and the Governor, and thus defeated. We were told that a referendum would threaten future funding for water development in South Dakota. Thus, Federal funding meant more than whether or not Oahe was a good project and whether or not local people wanted it. Thus, the actions of the United Family Farmers were bad for South Dakota.

Project construction started on the Oahe pumping plant in 1974 and on the canal in 1976. In the final days of construction, construction equipment was moving around the clock in an attempt to complete as much of the canal as possible. The reason being that the Bureau and promoters of the project could always point to the fact that great sums had been expended, and it would be a waste of taxpayers' dollars if something isn't done with the completed and partially completed facilities.

The Oahe project, by its very nature, is self-serving to the reclamation bureaucracy. The Bureau has invested bias in seeing that the project would continue. We have determined that the Bureau has neither the courage nor the will to reverse the action they had started.

Their answer to our effort was, and I quote:

We cannot drag our feet in construction of this project and countermand the directions of Congress because of a vocal minority group which has had continuing opportunities before the state legislature and Congress to prove all the strength of its objection and has failed in its attempts to delay development of this project.

Our early efforts to prompt our congressional delegation and our Governor to begin the process to reverse a bad decision, to go ahead with project construction, were turned away or abandoned.

The political leadership's excuse for seeking the continuation of the Oahe was that a majority of locally elected officials of the Oahe sub-district board and the Spink and West Brown irrigation district boards favored the project, and that they recognized local control as the determining factor of whether or not the project should continue or be stopped.

Through a series of several local elections in the Oahe subdistrict and irrigations districts, a majority of the members elected to those boards oppose the Oahe irrigation project and favor its deauthorization.

When local sponsoring groups began to oppose Oahe, several attempts were made through the legislature and the courts by project

¹ Retained in committee file.

proponents to go around the local authority of the Oahe subdistrict board. Senate bill 1553 attempts to do much the same thing.

The legislation, S. 1553, is a start toward a bill that could be productive to the future of water development in the State. At the heart of this legislation is the future of the Oahe unit. Whatever action Congress may wish to take, we feel that first it must be decided and made very clear what to do with the original Oahe authorization.

Although construction on features has stopped, the project is still authorized for construction by the act of August 3, 1968.

I am attaching several documents to substantiate my position, including a news story quoting Senator Abdnor several years ago. Senator Abdnor more than a half a decade ago said: "It is impossible to take Federal money already authorized for one project in the State and use it for another."

Deauthorization legislation was first introduced in 1978 by former South Dakota Senator James Abourezk. Legislation proposing deauthorization was introduced in at least three bills, H.R. 5808—Bedell; H.R. 8078—Daschle and Abdnor; S. 3083—Pressler and McGovern, and is pending before this Congress in the form of House Resolution 4172—Bedell.

The Department of Interior has repeatedly advised that the many alterations, modifications and changes that have been proposed for the Oahe unit plan are not allowable under the original authorization. I have attached these documents for the committee's consideration.

This committee has a great decision before you. I hope that you will take into consideration the information that I have provided you, the economics of a diversion like the Oahe unit, the impacts, and most of all the desires of the local people and their locally elected boards.

As Governor Janklow so eloquently stated at a recent meeting, "To be ignorant of the past is to be a child."

Thank you for this opportunity to testify before your committee.

Senator MURKOWSKI. Thank you very much, Mr. Fischbach. Sometimes one does find something in an old news clipping that surprises one.

We will proceed with the balance of your group and call on Mr. Lauren Stuck.

STATEMENT OF LAUREN STUCK, TREASURER, THE UNITED FAMILY FARMERS

Mr. STUCK. Thank you, Mr. Chairman, and I am the treasurer of the United Family Farmers. Before I begin my testimony, I would like to say that the United Family Farmers is an organization whose finances depend totally upon individual contributions and memberships. We have never received any moneys from any environmental, business or political group. Ninety-five percent of our membership consists of farmers and landowners in the areas affected by the Oahe project.

To get the Oahe project authorized, it was necessary to organize irrigation districts among the landowners in the proposed irrigation area to serve as a local entity with which the Bureau of Reclamation could contract for water service. My family currently owns land in what became the Spink County irrigation district.

Because of the irrigability of the soils in the proposed project area was questionable, and since there was concern about the effects of irrigation ditches and drainage problems on the land, many Spink and Brown County farmers questioned at an early time whether to include their lands in the project.

In response to these concerns, the Bureau promised a study of replacing the plan of an open ditch delivery with a pipeline delivery system.

As the formation of the irrigation districts grew closer, in the fall of 1964, the concerned farms and landowners were offered a compromise. They were told that if they didn't want to irrigate, they could petition their farm out and that way they would not be affected in any way by the proposed project.

Hearing this, and having confidence in the Bureau's plan to put the water in a pipeline, these concerned farmers decided to remove themselves from the project area. As a result, 525 landowners petitioned themselves out of the irrigation districts.

But, by doing that, they lost their right to vote in the irrigation district elections. To the 525 that removed themselves, this seemed like a good move because they had confidence in the Bureau's proposed pipeline study.

A total of 1,276 landowners remained in the two districts. An election was held in 1965 on the question of forming the districts. With 525 landowners being petitioned out, a total of 669 landowners voted on this proposition, with about 83 percent voted favorably.

I have attached a map of the irrigation districts who show the result of this gerrymandering. As you will be able to see, this left a very irregular pair of irrigation districts.

In 1971, the Bureau released the results of their study of a pipeline delivery system in the definite plan report. I have also attached a copy of this for the record. The people who petitioned their land out suddenly realized that they would be affected by the project, and they didn't have a right to vote because of the fact that they had petitioned themselves out of the districts.

To make matters worse, the Bureau plotted all main delivery canals outside of the irrigation districts. The landowners were also to be affected by the supply canals and the drains.

If these landowners and farmers had realized the impact that they were to face prior to being gerrymandered out of the irrigation districts, I am sure they would have chosen not to remove themselves.

Also, I am sure you can conclude that the Oahe would have died a quicker death had these people remained in. As you are aware, the irrigation districts are controlled by elected officials who favor the deauthorization of the Oahe project. These officials were elected by the same people who voted for the organization of the irrigation districts for the Oahe project.

Senator Abdnor's legislation attempts to cancel the contracts without deauthorizing the Oahe project. The people in this area have fought long and hard to stop construction on the Oahe project, and they have worked for its deauthorization. I don't think it is proper to go around this local control without deauthorizing the Oahe project.

Since Senator Abdnor's legislation talks about canceling the contracts without deauthorizing the Oahe project, I would like to add to the record the following information. In 1976, the U.S. House Govern-

ment Operations Committee reported that the estimated total Federal obligations to complete the Oahe unit, at that time, was over \$431 million based on July 1975 prices. They also stated that this amount exceeded the authorized cost ceiling by nearly \$35.7 million.

The committee recommended that:

If at any time the estimated total Federal obligations, incurred or to be incurred, to complete a project exceed the authorized cost ceiling as adjusted for ordinary fluctuations in costs, the Bureau should consider (1) restructuring the project to reduce project costs without causing substantial change in project benefits; or (2) going back to the Congress to seek legislation permitting a higher authorized cost ceiling.

In 1978, the Solicitor held:

When Congress places a cost ceiling in legislation authorizing construction of a project, the agency must obtain additional authority from Congress to continue construction of the project if it is projected that the cost ceiling will be exceeded.

The Bureau of Reclamation is required to seek additional authority from Congress to continue a project at the earliest point in time that it determines the authorized cost ceiling will be exceeded so that Congress can determine whether the project should be completed at the increased cost.

Senator MURKOWSKI. Mr. Stuck, would you summarize your testimony?

Mr. STUCK. Oh, OK. I have attached the reports and documents that this information came from. Now since Senator Abdnor's legislation calls for the study of alternatives to the Oahe, and since he isn't deauthorizing the Oahe project, you would have to conclude that he wants to use the Oahe authorization for a different project.

Since the Bureau did not restructure their project to reduce the cost, and since they did not seek Congress for reauthorization, you have to conclude that the Oahe, even at its present state, required reauthorization. The Bureau ignored the recommendations of Congress, and I believe that this should be spoken to before you start talking about using the Oahe authorization for another project.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Stuck follows:]

September 12, 1981 Oahe deauthorization hearing-Pierre, S.D.
United States Senate Sub-Committee on Water and Power

- Chairman Frank Murkowski:

My name is Lauren Stuck and I am the Treasurer of the United Family Farmers. Before I begin my testimony, I would like to say that the United Family Farmers is an organization whose finances depend totally upon individual contributions and memberships. We have never received contributions from environmental, business, or political groups. 95% of our membership consists of farmers and landowners in the areas affected by the Oahe Project.

To get the Oahe Project authorized, it was necessary to organize irrigation districts among the landowners in the proposed irrigation area to serve as a local entity with which the Bureau of Reclamation could contract for water service. My family currently owns land in what became the Spink County Irrigation District.

Because the irrigability of the soils in the proposed project area was questionable and since there was concern about the effects of irrigation ditches and drainage problems on the land, many Spink and Brown County farmers questioned at an early time whether to include their lands in the project. In response to these concerns, the Bureau promised a study of replacing the plan of an open ditch delivery with a pipeline delivery system.

As the formation of the irrigation districts grew closer, in the fall of 1964, the concerned farmers and landowners were offered a compromise. They were told that if they didn't want to irrigate, they could petition their farm out and they

wouldn't be affected in any way by the proposed project. Hearing this and having confidence in the Bureau's plan to put the water in a pipeline, these concerned farmers decided to remove themselves from the project area. As a result, 525 landowners petitioned themselves out of the irrigation districts. But, by doing this, they lost their right to vote in the irrigation district elections. To the 525 that removed themselves, this seemed like a good move because they had confidence in the Bureau's proposed pipeline study. A total of 1276 landowners remained in the two districts. An election was held in 1965 on the question of forming the districts. With the 525 landowners being petitioned out, a total of 669 landowners voted on this proposition, with about 83% voting favorably. I've attached a map of the irrigation districts which show the the result of this gerrymandering. As you will be able to see, this left a very irregular pair of irrigation districts.

In 1971, the Bureau released the results of their study of a pipeline delivery system in the Definite Plan Report. I've also attached a copy of this for the record. The people who petitioned their land out suddenly realized that they would be affected by the project and they didn't have a right to vote because of the fact that they had petitioned themselves out of the districts. To make matters worse, the Bureau plotted all main delivery canals outside of the irrigation districts. The landowners were also to be affected by the supply canals and the drains.

If these landowners and farmers had realized the impact that they were to face prior to being gerrymandered out of

the irrigation districts, I'm sure they would have chosen not to remove themselves. Also, I'm sure you can also conclude that Oshe would have died a quicker death had these people remained in. As you are aware, the irrigation districts are controlled by elected officials who favor the deauthorization of the Oshe Project. These officials were elected by the same people who voted for the organization of the irrigation districts for the Oshe Project. Senator Abdnor's legislation attempts to cancel the contracts without deauthorizing the Oshe Project. The people in this area have fought long and hard to stop construction on the Oshe Project and they have worked for it's deauthorization. I don't think it is proper to go around this local control without deauthorizing the Oshe Project.

Since Senator Abdnor's legislation talks about cancelling the contracts without deauthorizing the Oshe Project, I would like to add to the record the following information. In 1976 the U.S. House Government Operations Committee reported that the estimated total federal obligations to complete the Oshe Unit, at that time, was over \$431 million dollars based on July 1975 prices. They also stated that this amount exceeded the authorized cost ceiling by \$35.7 million. The Committee then recommended that:

"If at any time the estimated total Federal obligations, incurred or to be incurred, to complete a project exceed the authorized cost ceiling as adjusted for ordinary fluctuations in costs, the Bureau should consider (1) restructuring the project to reduce project costs without causing substantial change in project benefits or (2) going back to the Congress to seek legislation permitting a higher authorized cost ceiling."

In 1978 the Solicitor held:

"When Congress places a cost ceiling in legislation authorizing construction of a project, the agency must obtain additional authority from Congress to continue construction of the project if it is projected that the cost ceiling will be exceeded.

The Bureau of Reclamation is required to seek additional authority from Congress to continue a project at the earliest point in time that it determines the authorized cost ceiling will be exceeded so that Congress can determine whether the project should be completed at the increased cost."

I've attached the reports and documents that this information came from. Now since Senator Abdnor's legislation calls for the study of alternatives to Oahe and since he isn't deauthorizing the Oahe Project, you would have to conclude that he wants to use the Oahe authorization for a different project. Since the Bureau did not restructure their project to reduce the cost, and since they did not ask Congress for reauthorization, you have to conclude that Oahe, even in its present state requires reauthorization. The Bureau ignored the recommendations of Congress and I believe that this should be spoken to before you start talking about using the Oahe authorization for another project.

Thank-you.

testimony of Lauren Stuck
Mellette, S.D. 57461

BUREAU OF RECLAMATION'S INDEXING PRO-
CEDURES CONCEAL INFORMATION THAT WATER
RESOURCE PROJECTS ARE IN EXCESS OF THEIR
AUTHORIZED COST CEILINGS

FOURTEENTH REPORT

BY THE

COMMITTEE ON GOVERNMENT
OPERATIONS



FEBRUARY 26, 1976.—Committed to the Committee of the Whole House
on the State of the Union and ordered to be printed

U.S. GOVERNMENT PRINTING OFFICE

WASHINGTON : 1976

IX. SUMMARY

FINDINGS

Congress has provided the Bureau of Reclamation with latitude to adjust project cost ceilings to take account of inflation. The Bureau of Reclamation has abused this discretion by adjusting cost ceilings for costs not subject to inflation.

The Bureau continues to index for inflation purposes costs for work which has been completed and is no longer subject to inflation.

The Bureau continues to index for inflation millions of dollars worth of completed work on the McClusky Canal and Snake Creek Pumping Plant features of the Garrison Diversion Unit resulting in a \$6.2 million overstatement of the authorized cost ceiling.

The Bureau continues to index preauthorization costs.

The continued indexing of the completed features of the Colorado River Storage Project and Fryingpan-Arkansas Project resulted in overstating the cost ceilings for both projects by \$168.6 million and \$19.7 million, respectively.

Bureau procedures allowed the use of a U.S. Department of Agriculture land index to update the authorized cost ceiling before the purchase of land. Bureau procedures precluded using the index to update the ceiling after land was purchased.

The Bureau includes non-Federal expenditures in the authorized cost ceiling while it excludes such expenditures from the estimated total Federal obligation.

The Bureau, contrary to its own procedures, continued to index costs for inflation purposes after the completion of a feature to which such costs applied.

The original Colorado River Storage Project authorizing legislation (P.L. 485, 1956) did not provide the Bureau authority to increase the project's cost ceiling by indexing for inflation.

The Bureau has unauthorizedly increased the cost ceiling for the Colorado River Storage Project by indexing, for inflation purposes, costs expended on portions of the project constructed pursuant to P.L. 84-485 in direct violation of that Act.

The Bureau's procedures call for separate cost indexes for (1) land, (2) construction, and (3) non-contract costs because different inflation factors apply in each category. Bureau officials violated this procedure by using a composite index for all three areas in computing the cost ceiling for the Colorado River Storage Project.

The Bureau of Reclamation violated its own procedures by failing to use current prices in computing the estimate of total Federal obligations for the Bonneville Unit of the Central Utah Project, resulting in a \$63.7 million understatement of project costs for FY 1976.

The Bureau of Reclamation's internal review of project cost ceiling and cost estimates is inadequate and has failed to identify and correct indexing errors in violation of Bureau procedures.

The Bureau of Reclamation plans to add a major new \$45 million feature (Leland Bench) to the Bonneville Unit of the Colorado River Storage Project without additional congressional authority.

The Bureau claims that the authorized cost ceiling for the Colorado River Storage Project, as indexed for inflation, using present Bureau procedures, is sufficiently in excess of the estimate of total Federal obligations to justify the addition of the Leland Bench feature. The Committee finds that this does not provide the Bureau with adequate authority to construct Leland Bench.

The Bureau practice of temporarily understating project estimates of total Federal obligations is employed to keep the project cost estimates within the current project authorized cost ceilings.

The Bureau temporarily understated the estimate of total Federal obligation for the Souris Loop section of the Garrison Diversion Unit by \$15.8 million to prevent cost estimates from exceeding the fiscal year 1976 authorized cost ceiling for Garrison.

Of the 35 projects recomputed by the Bureau using GAO's recommended procedures, and as corrected by the Committee, 19 were found to be in excess of their authorized cost ceiling, as established by law, by a total of \$675 million.

RECOMMENDATIONS

The Committee recommends that:

1. The Bureau of Reclamation eliminate the indexing of preauthorization costs from the authorized cost ceiling for all reclamation projects and revise the project data sheets accordingly.

2. The Bureau accurately report to the Congress as to project cost ceilings and estimated total Federal expenditures.

3. If at any time the estimated total Federal obligations, incurred or to be incurred, to complete a project exceed the authorized cost ceiling as adjusted for ordinary fluctuations in costs, the Bureau should consider (1) restructuring the project to reduce project costs without causing substantial change in project benefits or (2) going back to the Congress to seek legislation permitting a higher authorized cost ceiling.

4. The Bureau revise its indexing procedures to prevent the indexing of expended funds from improperly increasing the authorized cost ceiling computation.

5. The Bureau adjust authorized cost ceilings for all existing and future projects by eliminating from a project's cost index expended funds on an annual basis.

6. Indexing an item be stopped when the original estimate for that item as indexed is exceeded by the actual expenditure or when the work on that item is completed.

7. The Bureau continue the practice it commenced this fiscal year of reporting the authorized cost ceiling for each project on the project data sheets provided to the appropriate committees of Congress.

8. The Bureau prepare and provide on an annual basis to the appropriate committees of Congress summary data or project costs and cost estimates showing: project identification, citation and date of authorizing legislation, amount of original authorization, the increase due to indexing, the increase due to legislation, the total amount to be appropriated, and the estimated total Federal obligations.

9. The Bureau's procedures be revised to prohibit the substitution of actual land costs for land costs based on the original estimate as appropriately indexed.

10. The Bureau revise its procedures to require the exclusion of non-Federal expenditures from the authorized cost ceiling computation at the same time the applicable costs are excluded from total Federal obligations.

11. The Bureau of Reclamation promptly review and recompute authorized cost ceilings for all other reclamation projects for fiscal year 1977, eliminating all costs resulting from inflation indexing of completed project features in compliance with the Bureau's own procedures. The FY 1977 project data sheets should be revised to reflect any necessary corrections.

12. The Bureau of Reclamation discontinue the use of composite indexes and comply with its own procedures by employing separate cost indexes for (1) land, (2) construction, and (3) non-contract costs.

13. The estimate of total Federal obligations for the Bonneville Unit of the Colorado River Storage Project be recomputed to reflect the most current prices available. The fiscal year 1977 Project Data Sheets for CRSP should be revised accordingly.

14. The Secretary of the Interior promptly develop detailed procedures for indexing authorized cost ceilings and estimating project costs which contain specific criteria and are in sufficient detail to assure uniform application and provide a basis for internal review to determine compliance. Also, the procedures should set forth the specific requirements for internal review.

15. Procedures be developed by the Bureau of Reclamation to guide regional officials in determining when a necessary change in a project plan as authorized by Congress is of sufficient magnitude to require additional congressional authority to plan and construct. These procedures should first be submitted to this committee and other appropriate congressional committees for review and comment.

16. The Bureau of Reclamation halt all planning and construction on the planned Leland Bench feature of the Bonneville Unit of the Colorado River Storage Project until such time as Congress has specifically authorized and approved its construction.

17. The Bureau of Reclamation discontinue use of the temporary understatement or any other indexing method being used which may result in an understatement of estimates of total Federal obligations for construction projects.

18. The Congress consider legislation which would clarify the extent to which the Bureau of Reclamation may adjust cost ceilings to account for inflation.

DEPARTMENT OF THE INTERIOR, BUREAU OF RECLAMATION—Continued

DATA ON AUTHORIZED RECLAMATION PROJECTS WHICH REQUIRE ADDITIONAL APPROPRIATIONS TO COMPLETE CONSTRUCTION, FISCAL YEAR 1977

[Based on method referred to in Dec. 11, 1975, letter from Congressman Moorhead to J. O. Horton, Assistant Secretary of the Interior, amounts in dollars]

State project and units (1)	Citation and date (2)	Amount of authorization (3)	Increase due to indexing (July 1975) (4)	Increase due to legislation (5)	Total author- ized to be appropriated (6)	Estimated total Federal obligations ¹ (7)	Allotments to June 30, 1975 ² (8)
UPPER MISSOURI REGION							
Various: Pick-Sloan Missouri 10 Basin program.	Public Law 92-371, August 1972.	792,130,917 plus 114,000,000 equals 906,130,917.	58,230,000	(11)	964,360,917	(January 1975) 930,483,908.	821,807,992
North Dakota: Garrison Diversion Unit.	Public Law 89-108, August 1965.	207,000,000	245,132,000	19,308,000	471,440,000	(January 1975) 495,792,034	86,846,587
Garrison Diversion Unit, Minot Extension.	Public Law 91-415, September 1970.	12,900,000	9,550,000	(11)	22,450,000	(January 1975) 22,000,000	3,199,955
South Dakota: Oahe Unit.	Public Law 90-453, August 1968.	191,670,000	204,060,000	(11)	395,730,000	(January 1975) 410,000,000	12,307,716
Wyoming: Riverton Unit.	Public Law 91-409, September 1970.	12,116,000	8,554,000	(11)	20,670,000	(January 1975) 19,500,000	2,364,508
LOWER MISSOURI REGION							
Fryingpan-Arkansas project.	76 Stat. 389, Aug. 16, 1962, amended by 88 Stat. title XI Public Law 93-493, Oct. 27, 1974.	432,000,000	72,481,000	80,997,000	585,478,000	(January 1975) 559,978,000.	208,464,795
Nebraska: Pick-Sloan Missouri Basin program, North Loup Division.	86 Stat. 964, Oct. 20, 1972.	79,500,000	32,696,000	0	112,196,000	(January 1975) 111,720,000	365,194
Pick-Sloan Missouri Basin program, O'Neill Unit.	86 Stat. 964, Oct. 20, 1972.	113,300,000	46,498,000	0	159,798,000	(January 1975) 159,090,000	728,093
Wyoming: Pick-Sloan Missouri Basin program, Glenrose Road.	Title IX Public Law 93-493, Oct. 27, 1974.	284,000	76,000	0	360,000	(January 1975) 360,000	0
Colorado: Pick-Sloan Missouri Basin Program, Narrows Unit.	84 Stat. 830, Aug. 28, 1970.	68,050,000	52,226,000	4,375,000	124,651,000	(January 1975) 137,000,000.	686,148

¹ As presented in fiscal year 1977 Budget Justification Documents.

² Not included in the fiscal year 1977 Budget Justification Documents.

³ Authorization did not allow increase by indexing.

⁴ Includes \$362,357,550 for Westlands water district and \$13,650,000 for San Luis water district

⁵ Public Law 130 loan.

⁶ Includes \$111,080,639 for Westlands water district and \$4,927,498 for San Luis water district

⁷ Public Law 130 loan.

⁸ Covers Public Law 93-291, 88 Stat. 174, May 24, 1974, National Preservation Act only.

⁹ Specific costs have not been identified as yet.

¹⁰ Includes portion of transmission division located in the Lower Missouri region.

¹¹ Includes \$2,840,000 for Recreation and Fish and Wildlife Sec. 8 program.

¹² Includes units located in Lower Missouri region that were authorized as a part of Public Law

92-371.

¹³ Includes units located in Lower Missouri region that were authorized as a part of Public Law

92-371.

¹⁴ Amount subject to indexing.

¹⁵ Specific costs have not been identified as yet.

COST DATA FOR RECLAMATION PROJECTS WHICH REQUIRE ADDITIONAL APPROPRIATIONS (FISCAL YEAR 1977) SHOWING ESTIMATED TOTAL FEDERAL OBLIGATIONS AS ADJUSTED BY THE COMMITTEE TO JULY 1975, AND AMOUNT BY WHICH OBLIGATIONS EXCEED AUTHORIZED COST CEILINGS—Continued

State project and units (1)	Citation and date (2)	Amount of authorization (3)	Total authorized to be appropriated indexed to July 1975 (6)	Estimated total Federal obligations ¹ (7)	Estimated total Federal obligations Corrected ² (8)	Amount exceeds cost ceiling (9)
Various: Pick-Sloan Missouri Basin program.....						
	Public Law 92-371 August 1972.....	792,130,917 * 114,000,000				
		906,130,917	964,360,917	930,483,908(1-75)	936,352,496	
North Dakota:						
Garrison diversion unit.....	Public Law 89-108 August 1965.....	207,000,000	471,440,000	495,792,034(1-75)	517,874,717	46,434,717
Garrison diversion unit Minot extension.....	Public Law 91-415 September 1970.....	12,900,000	22,450,000	22,000,000(1-75)	23,015,155	565,155
South Dakota: Oahe unit.....	Public Law 90-453 August 1968.....	191,670,000	395,730,000	410,000,000(1-75)	431,475,084	35,745,080
Wyoming: Riverton unit.....	Public Law 91-409 September 1970.....	12,116,000	20,670,000	19,500,000(1-75)	20,424,798	

¹ As presented in fiscal year 1977 budget justification documents.

² Bureau data, corrected to July 1, 1975.

³ Includes unit located in Lower Missouri Region that were authorized as a part of Public Law 92-371.

⁴ Amount subject to indexing.

State project and units (1)	Citation and date (2)	Amount of authorization (3)	Total authorized to be appropri- ated indented to July 1975 (6)	Estimated total Federal obligation ¹ (7)	Estimated total Federal obligations corrected ² (8)	Amount exceeds cost ceiling (9)
Colorado: Fryingpan-Arkansas project.....	76 Stat. 389, Aug. 16, 1962, amended by 88 Stat., title XI, Public Law 93-493, Oct. 27, 1974.	432,000,000	585,478,000	539,978,000(1-75)	557,879,497	.....
Nebraska: Pick-Sloan Missouri Basin program, North Loup division.....	86 Stat. 964, Oct. 20, 1972.....	79,500,000	112,196,000	111,720,000(1-75)	117,733,364	5,537,364
Pick-Sloan Missouri Basin program, O'Neill unit.....	86 Stat. 964, Oct. 20, 1972.....	113,300,000	159,798,000	159,090,000(1-75)	167,641,641	7,843,641
Wyoming: Pick-Sloan Missouri Basin program, Glendo Road.....	Title IX, Public Law 93-493, Oct. 27, 1974..	284,000	360,000	360,000(1-75)	379,440	19,440
Colorado: Pick-Sloan Missouri Basin program Narrows unit....	84 Stat. 830 Aug. 28 1970.....	68,050,000	124,651,000	137,000,000(1-75)	144,361,104	7,361,104

¹ As presented in fiscal year 1977 budget justification documents.

² Bureau data, corrected to July 1, 1975.

337 ADEQUACY OF LEGISLATIVE AUTHORIZATION FOR THE SAN FELIPE DIVISION, CENTRAL VALLEY PROJECT, CALIFORNIA

July 31, 1978

ADEQUACY OF LEGISLATIVE AUTHORIZATION FOR THE SAN FELIPE DIVISION, CENTRAL VALLEY PROJECT, CALIFORNIA

the project should be completed at the increased cost.

M-36903

July 31, 1978

OPINION BY
OFFICE OF THE SOLICITOR

May 1, 1978

Bureau of Reclamation: Authorization—Bureau of Reclamation: Construction—Bureau of Reclamation: Findings of Feasibility

TO: ASSISTANT SECRETARY-LAND AND WATER RESOURCES

FROM: SOLICITOR

SUBJECT: ADEQUACY OF LEGISLATIVE AUTHORIZATION FOR THE SAN FELIPE DIVISION, CENTRAL VALLEY PROJECT, CALIFORNIA

I. Summary

Your memorandum on this subject, dated Jan. 20, 1978, raises two questions concerning whether current project plans are consistent with Congress' authorization of the project. The first is whether the post-authorization modifications in the project plans are consistent with Congress' authorization, and the second is whether the projected increased costs of the Division have exceeded the authorized appropriation level, so that additional Congressional authorization is needed at this time.

I have concluded, based on the facts furnished by your office and the Bureau of Reclamation, that there is no current need to seek additional Congressional authority to accommodate the project modifications. Current Bureau estimates indicate that the project can be completed within the currently au-

The Secretary of the Interior has discretion to modify the physical features or plans of a Bureau of Reclamation project after Congressional authorization when the authorizing legislation only states what the general features of the project are to be and does not specifically incorporate any detailed feasibility report into the legislation. The Secretary cannot, however, deviate from the general plans or facilities specifically defined by Congress to be part of the project without obtaining the approval of Congress.

Bureau of Reclamation: Authorization—Bureau of Reclamation: Construction

When Congress places a cost ceiling in legislation authorizing construction of a project, the agency must obtain additional authority from Congress to continue construction of the project if it is projected that the cost ceiling will be exceeded.

Bureau of Reclamation: Authorization—Bureau of Reclamation: Construction

The Bureau of Reclamation is required to seek additional Congressional authority to continue a project at the earliest point in time that it determines the authorized cost ceiling will be exceeded so that Congress can determine whether

thorized appropriation level, although appropriations requested for this year will not exceed the present authorized ceiling. Both the appropriations and the authorizing Committees should be notified immediately that the Bureau estimates that the project cannot be completed within the present level of authorization. Legislation should be forwarded to increase the authorization of the project in line with current Bureau estimates. Until such time as the appropriations and authorizing Committees have had an opportunity to act based on such notice, the project should proceed on schedule.

II. Background

The San Felipe Division, Central Valley Project, California, was authorized by the Act of Aug. 27, 1967, 81 Stat. 174.¹ Sec. 1 of that Act provides:

For the purposes of providing irrigation and municipal and industrial water supplies, conserving and developing fish and wildlife resources, enhancing outdoor recreation opportunities and other related purposes, the Secretary of the Interior acting pursuant to the Federal reclamation laws (Act of June 17, 1902, 32 Stat. 388, and Acts amendatory thereof or supplementary thereto), is authorized to construct, operate, and maintain, as an addition to, and an integral part of, the Central Valley project, California, the San Felipe division. The principal works of the division shall consist of the Pacheco tunnel, pumping plants, power transmission facilities, canals, pipelines, regulating reservoirs, and distribution facilities. No facilities shall be constructed for electric transmission and distribution

service which the Secretary determines, on the basis of an offer of a firm fifty-year contract from a local public or private agency, can through such a contract be obtained at less cost to the Federal Government than by construction and operation of Government facilities.² (Italics added.)

The general purpose of the Act is to provide a supplemental water supply to an area south of San Francisco Bay consisting of portions of Santa Clara, San Benito, Santa Cruz and Monterey Counties. Water for the project will be pumped from the Sacramento-San Joaquin Delta and transported either through the Federal Delta-Mendota Canal or the California Aqueduct for storage in San Luis Reservoir. From that point the water will be transported beneath the Diablo Range by means of the Pacheco Tunnel, which terminates in the valley of Pacheco Creek, a tributary of the Pajaro River. At the terminus of the Pacheco Tunnel two canals will carry project water both north to the Santa Clara County area and south and west to the San Benito County area.

At the time of authorization a major project justification was that water use in the area was greater than water supply, and declining groundwater levels caused problems of land surface subsidence and salt water intrusion from San Francisco Bay. The project imports were planned to reduce agricultural, municipal and industrial demands on the groundwater supply and directly contribute to groundwater

¹ The authorization is codified in 43 U.S.C. § 616fff-1 through 43 U.S.C. § 616fff-7 (1970).

² 43 U.S.C. § 616fff-1 (1970).

July 31, 1978

recharge, thus alleviating or at least mitigating the groundwater overdraft condition.

III. Modifications in Physical Project Features

Since Congressional authorization, the overall purpose of the project has remained the same as described above. However, the actual engineering features originally planned to accomplish this purpose have been modified in many respects in the intervening years. These changes have developed in response to cost constraints, changed conditions and revised projections of water demand and availability.

It is not necessary to detail such and every modification made to the project plan since the Department submitted a feasibility report to Congress in Sept. 1966.³ Major modifications include: 1) reducing the length and capacity of the Pacheco Tunnel; 2) substituting conduits and tunnels for originally contemplated open canals; 3) substituting the San Justo Reservoir for the previously planned Hollister and Hudner Reservoirs thus increasing the available storage in the project area; 4) changing the capacity and location of project pumping plants; and 5) deferring project service to the Watsonville subarea. Current project plans dif-

fer in these and other ways from those contemplated in the Feasibility Report which Congress had before it when authorizing the project. These modifications require a view of the legal effect of the project Feasibility Report and a comparison of it to the authorizing legislation.

First, the San Felipe authorizing Act did not specifically refer to House Document No. 500, 89th Cong., 2d Sess. The authorization simply, and generally, required the Secretary to construct "the Pacheco tunnel, pumping plants, power transmission facilities, canals, pipelines, regulating reservoirs and distribution facilities." The Act did not specify the capacities, locations or costs or any of these features. This suggests that Congress meant to accord the Secretary substantial discretion to modify the project features to fit changing needs, so long as the basic facilities Congress described were built to carry out the project purpose.⁴

⁴ The authorizing language should be compared with other Congressional authorizations of Bureau projects; e.g., the Fryingpan-Arkansas Project authorizing Act, 43 U.S.C. § 616 (1970), which directs the Secretary to build the project "in substantial accordance with the engineering plans therefor set forth in [the feasibility report] . . . with such minor modifications of, omissions from, or additions to the works described in those reports as he may find necessary, or proper for accomplishing the objectives of the project; . . ." authorizing Act for the Auburn-Folsom South Unit, 43 U.S.C. § 616bbb (1970), which specifies the actual maximum height and capacity of the dam and reservoir in the legislation itself; and the authorizing Act for the Garrison Diversion Unit, 70 Stat. 433, Aug. 5, 1965, which authorizes construction of a development "substantially in accordance with" the Bureau's feasibility report.

³ See Report on the San Felipe Division, Central Valley Project, California, House Document No. 500, 89th Cong., 2d Sess., Sept. 1966, 43 U.S.C. § 435h (1970) requires the Secretary to submit this type of report to Congress prior to expending money for construction of new project works. See also 43 U.S.C. § 412 (1970).

This conclusion is supported by sec. 4 of the authorizing Act which provides:

Sec. 4. In locating and designing the works and facilities authorized for construction by this Act, and in acquiring or withdrawing any lands as authorized by this Act, the Secretary shall give due consideration to reports prepared by the State of California, on the California water plan, and shall consult with local interests who may be affected by the construction and operations of said works and facilities or by the acquisition or withdrawal of lands, through public hearings or in such manner as in his discretion may be found best suited to a maximum-expression of the views of such local interest.⁶

The intent of Congress reflected in this section is that the Secretary should plan the San Felipe Division works in consonance with the plans, views and preferences of the State of California and the local interests affected by the project. If Congress had intended to tie the Secretary to the project plans as set out in the Feasibility Report, it would have been meaningless to require the Secretary to provide for and respond to these forms of public participation in facility location and design decisions.

This discretion is, however, constrained by the plain terms and requirements of the Act as to what facilities shall be constructed—namely, “the Pacheco tunnel, pumping plants, power transmission facilities, canals, pipelines, regulating reservoirs and distribution facilities.” According to the Bureau of Reclamation, the general features mentioned in the authorizing Act

continue to be part of the project plan. Although substantial deviations from those general requirements, either by additions to or deletions from the project plans, would violate the Congressional authorization and purpose of the Division, the Bureau assures this is not the case. Therefore, I find the modifications authorized.

This conclusion finds support in reported decisions. For example, *Thetford v. United States*, 404 F. 2d 301 (10th Cir. 1968), was a condemnation action initiated on behalf of the Secretary of the Interior in furtherance of the Arbuckle Project in Oklahoma.⁷ The landowners challenged the authority of the Secretary to take their land for the project.

They relied on the fact that the Feasibility Report⁸ specifically defined the areas surrounding the reservoir site which were to be acquired for recreational purposes and the defendants' land were without this area.

The language used in the Arbuckle authorization was similar to that used in the San Felipe Act.⁹ No specific reference to the Feasibility Report was contained in the Act. The court noted that the initiation of these projects had traditionally been by means of a letter

⁶ Authorized by Act of Aug. 24, 1962, 76 Stat. 395; codified in 43 U.S.C. § 616k through 616s (1970).

⁷ House Document No. 242, 87th Cong., 1st Sess.

⁸ The pertinent portion reads: “The project shall consist of the following principal works: A reservoir . . . , pumping plants, pipelines, and other conduits” 43 U.S.C. § 616k (1970).

⁹ 43 U.S.C. § 616ff-4 (1970).

137 ADEQUACY OF LEGISLATIVE AUTHORIZATION FOR THE SAN 341
 FELIPE DIVISION, CENTRAL VALLEY PROJECT, CALIFORNIA

July 31, 1978

report from the Department to the Congress and found that the evidence in the record showed " * * that such a report is merely a feasibility report and at most is only a tentative plan for the project being initiated." * * * 404 F. 2d at 302.

In dismissing defendants' argument that the taking was unlawful because defendants' land was outside the take line as shown on a map in the Feasibility Report, the court stated (404 F. 2d at 302):

* * * The fallacy in this argument results from their use of the feasibility report to read into the Act restrictions that do not exist. All such projects must in some way be initiated for consideration by the Congress and it is appropriate for the Secretary of the Interior to take this first step after determining, by a preliminary examination of the proposed project, that the project is feasible and what the probable costs will be. In this determination, and in preparing the report, the Secretary must in a broad way define the project in terms of acreage and probable facilities. Nevertheless, the report is not a part of the Act and we believe it is inappropriate to use the report, or any other part of the legislative history, to arrive at an interpretation of the meaning of the Act. Such practice becomes necessary only if the act in question is ambiguous. The Act here is clear and unambiguous thus we had no reason to look behind the plain language of it. (citations omitted) *

* The court found additional support for its position, that Congress intended the Secretary to have discretion in determining the land needed for recreational purposes, in sec. 6 of the Act which limits federal costs for constructing the project " * * * to the non-reimbursable costs of the Arbuckle project for minimum basic recreational facilities as determined by the Secretary." 43 U.S.C. § 616p (1970). The fact that the Arbuckle Act on its

The *Thetford* case was an eminent domain proceeding. Courts traditionally have been very reticent to question the actual necessity or authorized purpose of a taking. *Berman v. Parker*, 348 U.S. 26, 75 S.Ct. 98, 99, L.Ed. 29 (1954). *United States v. Bowman*, 367 F.2d 768 (7th Cir. 1966); *United States v. 80.5 Acres, of Land, More or Less, in the County of Shasta, State of Calif.*, 448 F.2d 980 (9th Cir. 1971). As the court stated in *United States v. 2,606.84 Acres of Land in Tarrant County, Texas*, 432 F.2d 1286, 1289 (5th Cir. 1970): " * * It is perfectly clear that the judicial role in examining condemnation cases does not extend to determining whether the land sought is actually necessary for operation of the project. * * * " Although the analogy to this case is therefore admittedly not perfect; nevertheless, the *Thetford* court's remarks concerning the status of the feasibility report, when the authorizing statute is nearly identical to the San Felipe Act, is supportive of the result we reach.

Other cases have evaluated situations when project plans were changed subsequent to authorization. Each of these cases has involved somewhat different authorizing language,¹⁰ and the differing

face contemplated the Secretary having discretionary authority is similar to the inference I draw above from sec. 4 of the San Felipe Act, contemplating public participation in final project facility location and design.

¹⁰ See n. 4, *supra*.

results reached suggest that a case-by-case review is necessary to make such determinations. Compare *Sierra Club v. Froehke*, 345 F. Supp. 440 (W.D. Wis. 1972); "with *National Wildlife Federation v. Andrus*, 440 F. Supp. 1245 (D. D.C. 1977);" see also, *Ryan v. Chicago B. & Q.R. Co.*, 59 F.2d 137 (7th Cir. 1932).

In San Felipe the Bureau of Reclamation is proceeding to build or plans to build all of the principal project features listed in the Act, and is not to my knowledge building any facilities not so listed. Given

"In this case the authorization Act stated that the Kickapoo Project "is hereby authorized substantially as recommended by the Chief of Engineers in House Document Numbered 357, Eighty Seventh Congress" The following changes had been made from the feasibility report plans: 1) the dam was enlarged from 71.5 feet high and 1440 feet long to 103 feet high and 3980 feet long; 2) lands to be acquired increased from 3000 to 9360 acres; 3) water surface area was expanded from 800 to 1780 acres; and 4) the storage capacity was expanded from 66,000 to 124,000 acre feet. The court found that the plaintiffs had "failed to show a significant chance of success" that the changes were unauthorized to justify a preliminary injunction, but a full decision on the merits was never made.

"In this case none of the authorizing Acts for the Navajo Indian Irrigation Project specifically mentioned a powerplant to be built in connection with the 'concededly authorized dam and reservoir. See 43 U.S.C. §§ 620 and 616ll-oo (1970). The original 1956 authorizing Act appeared to exclude a powerplant at the Navajo dam. Although a 1970 amendment to the authorization did not mention a powerplant, the Senate Committee Report on that amendment did mention that the project included a powerplant at the dam. S. Rep. No. 303 (91st Cong., 1st Sess. 1969) p. 2. The court held the powerplant was not authorized, noting that " . . . [w]here Congress has been specific in its authorization or lack thereof, the discretion of the officials is accordingly diminished. . . ." 440 F. Supp. at 1250. (The original 1962 authorizing legislation authorized a project "substantially" as proposed in the 1957 coordinated report of the Acting Commissioner of Reclamation and the Commissioner of Indian Affairs.)

en these facts, it is my judgment that the modifications in the San Felipe Division which have been made since 1967, and which deviate from those plans set forth in the feasibility report, are currently within the scope of the Congressional authorization, subject to the discussion below.

IV. Authorized Appropriation Ceiling

From the above, it is clear that Congress did not regard the feasibility report as having talismanic significance in constructing the San Felipe Unit. Congress did not, however, relinquish to the Department total control over project design and construction. Instead, Congress placed a limit, in the authorizing legislation, on the money which could be spent for the project. Through this cost ceiling, Congress retained the power to approve project changes which require spending more public funds than originally contemplated.

Specifically, sec. 7 of the San Felipe authorizing Act " provides as follows:

Section 7. There are hereby authorized to be appropriated for construction of the new works involved in the San Felipe division \$92,380 (Oct. 1966 prices), plus or minus such amounts, if any, as may be required by reason of changes in the cost of construction work of the types involved therein as shown by engineering cost indexes and, in addition thereto, such sums as may be required to operate and maintain said division.

This sec. was added during Committee deliberations in both the

" See 43 U.S.C. § 616llf-7 (1970).

July 31, 1978

Senate and the House.¹⁴ Sec. 5 in the original bills as introduced in the House and Senate merely provided that "[t]here are hereby authorized to be appropriated such sums as may be necessary to carry out the provisions of this Act."

An explanation of the amendment incorporating the authorized appropriation ceiling was provided by Congressman Haley of Florida. During a hearing conducted by the House Subcommittee on Irrigation and Reclamation, the following colloquy took place between Congressman Haley and Congressmen Gubser and Edwards, primary sponsors of the bill in the House:¹⁵

MR. HALEY. Of course we are considering your bill H.R. 43, and if and when the committee comes to the markup of the bill, do you have any objections to putting the so-called Haley amendment on our section 5 to find out exactly how much this project is going to cost, rather than leaving this open end [sic] phraseology which authorizes any sums?

MR. GUBSER. I am not familiar with the provisions of the amendment, but I certainly am willing to abide by the wisdom of this committee.

MR. HALEY. The so-called Haley amendment merely puts a ceiling, where if these wild spenders that we have in this Department want to spend more money than we think they should, they have to come back to the committee and get additional authorization.

MR. GUBSER. I might say, Mr. Haley, that a number of amendments have been suggested by the Department and were suggested in the Senate, and the local interests are thoroughly familiar with them and approve of the amendments which the Department has suggested.

MR. HALEY. I might say apparently the various departments downtown are beginning to recognize that the Congress should know how much these projects are going to cost and they are even beginning to put it into amendments that they send up here along with the bill.

There was no objection to Congressman Haley's amendment and it was subsequently adopted by the full Congress. The intent of the ceiling is clear. Congress demands the right to decide whether to continue a project which cannot be completed within the authorized cost ceiling.

The precise issue involved here is *when* Congress should be notified that the cost ceiling is likely to be exceeded. It is not open to question that before money in excess of the ceiling can be spent, additional authority must be obtained. But may the Bureau wait until the point at which the ceiling is about to be exceeded before asking Congress for additional authority? Is it obligated to seek additional authority from Congress at the earliest possible moment it estimates that the cost ceiling will be exceeded? Based on the reasons set out below, I conclude that the purpose of the so-called "Haley amendment" is best served if the Bureau is required to seek additional Congressional au-

¹⁴ See Senate Report No. 282 (90th Cong., 1st Sess.) pp. 6-7; House Report No. 523 (90th Cong., 1st Sess.) p. 6.

¹⁵ See Hearings before the Subcommittee on Irrigation and Reclamation of the Committee on Interior and Insular Affairs, House of Representatives (90th Cong., 1st Sess.) on H.R. 43 and related bills; pp. 17-18 (Italics added).

thority at the earliest point the Bureau's calculations reflect that the statutory cost ceiling will be exceeded.

The record of planning and development of the San Felipe Division reflects two things: (a) continuous cost escalation, and (b) corresponding adjustments in project design in an attempt to maintain the estimate of total federal obligation¹⁶ within the authorized cost ceiling as indexed for inflation. In spite of these efforts the most recent calculations by the Bureau of Reclamation indicate that while the appropriation ceiling for the San Felipe Division, as indexed, is \$192,225,000, the estimate of total federal obligation is \$200,311,000. Thus the cost ceiling will be exceeded by more than \$8,000,000 under current projections.

With the exception of Congressman Haley's expressions of the purpose of his amendment,¹⁷ no direct legal authority defining the Secretary's obligation with regard to project expenditures has been found. Certain indirect guidance can be found in 31 U.S.C. § 665 (1970). This statute, commonly referred to as the Anti-Deficiency Act, has a long history and reflects how Congress has exercised control

over the Executive Branch through control over the purse strings. Simply put, the effect and intent of the Anti-Deficiency Act is to prohibit government officials from making binding contractual commitments for a given purpose which exceed the amount of funds appropriated in the current fiscal year for that purpose. It has been generally held that the statute makes a nullity any attempt by a government agency to create a binding contractual commitment in the absence of the authority of an adequate and existing appropriation. See *Robert F. Simmons and Associates v. United States*, 360 F. 2d 962 (Ct. Cl. 1966) and *Hoe v. United States*, 218 U.S. 322 (1910). This suggests that, at a minimum, government officials must be very cautious in deciding to approve expenditures where the authority to do so is in doubt.

This limitation, together with the purposes of the limitation in the San Felipe authorizing Act, define the Bureau's obligations regarding when additional authority should be requested from Congress.

The San Felipe Act requires the Secretary to construct certain facilities and fulfill certain general purposes in the area to be served by the project. As stated earlier the Secretary is bound to carry out the purposes of the Act as defined by Congress and lacks the discretion to alter, exclude or add to the stated purposes. The authorized appropriation ceiling is a flat Congressional requirement that, unless Congress subsequently provides other-

¹⁶ This is the sum of (a) the expenditures to date and (b) the estimated cost to complete the project.

¹⁷ It should be emphasized that Congressman Haley said that the limitation applies when Departmental officials "want to spend more money than we think they should." See p. 243, *supra*. Regardless of whether the Bureau "wants" to spend money above the ceiling, its current estimates show that it will exceed the ceiling.

AD ECUACY OF LEGISLATIVE AUTHORIZATION FOR THE SAN FELIPE DIVISION, CENTRAL VALLEY PROJECT, CALIFORNIA 345

July 31, 1978

wise, the stated purposes must be accomplished within that fiscal limitation. That this requirement is conceded as binding is reflected in the Bureau's efforts over the past few years to modify the project design to stay within the ceiling, while at the same time fulfill the project purposes as defined by Congress.

It now appears that project modifications have been unsuccessful in keeping costs within the ceiling. Current estimates of total federal obligation exceed the authorized appropriation ceiling as indexed for inflation. In these circumstances, hold that, once the estimates exceed the authorized appropriation ceiling, as indexed, the appropriations and authorizing Committees should be notified immediately and the Bureau should request an increase in the authorized ceiling in order to give the Congress the opportunity to determine whether the project should be completed at the increased cost level. This additional authority should be sought at the time it is first determined that the estimate exceeds the ceiling, regardless of the amount of appropriations actually made for that project.

To do otherwise would make the Haley amendment a hollow act. If the spending agency waits until the ceiling to the whole project is about to be exceeded before informing Congress of cost overruns, Congress, and particularly the committees which initiated the legislation authorizing the project in the first

place,¹⁸ have little opportunity to make a reasoned choice about whether the additional expenditures are merited. The Congressional control over project expenditures which furnishes the whole purpose of the cost ceiling requirement would be frustrated.

Expressed another way, Congress did not authorize the San Felipe project to carry out certain purposes regardless of costs. Rather, it authorized the project only if the cost were kept within acceptable limits. Once it is estimated that the project cannot be completed within those limits, Congress must be given an opportunity to reassess the costs and benefits and make a new decision about the project's future. To do otherwise would effectively read the cost ceiling out of the law, because the equities shift in favor of completing the project the more money has been spent on it and the more facilities have been completed. Congress must be given a real rather than an essentially hollow choice in deciding whether to continue, and this requires a Congressional decision at the earliest possible date.

In the case of the San Felipe Division the current estimate of total federal obligation now exceeds the authorized appropriation ceiling by at least \$8,000,000. Although

¹⁸ It is important to note that, in describing the effect of his amendment, Congressman Haley emphasized that if the ceiling is to be exceeded, the Department must "come back to the committee (i.e., the authorizing committee) and get additional authorization." Quoted in full at p. 343, *supra* (italics added).

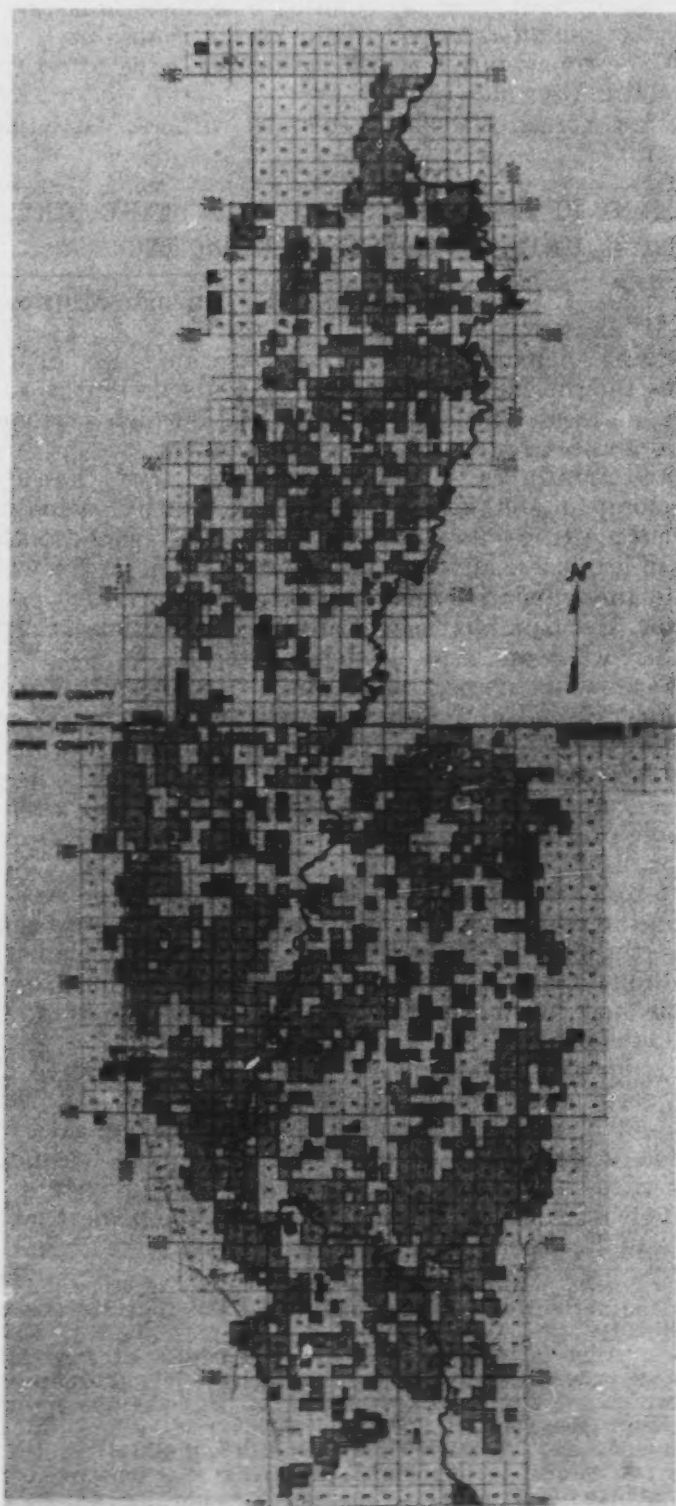
it might be argued that it is too early to tell whether this condition will persist in view of pending construction contract negotiations and other uncertainties, it is my opinion that this estimated overrun is significant enough that the purpose of the Congressionally established cost ceiling requires that Congress be given an opportunity now to decide whether to proceed by raising the cost ceiling.¹⁹

¹⁹ I must take note of the well-known fact that Bureau projects, like most construction projects in recent years, have often exceeded cost estimates. See, e.g., 2 Task Force on Water Resources and Power, *Report Prepared for the Commission on Organization of the Executive Branch of the Government*, table following p. 716 (1955); *Reclamation—Accomplishments and Contributions*, Legis. Reference Service, Library of Congress, 86th Cong., 1st Sess., Committee Print No. 1, pp. 47-48 (1959). In light of current difficulties

However, because we are dealing with estimates and cannot say with certainty in this case that the project cannot be completed within the existing authorization level, the project should continue on schedule until such time as the appropriations and authorizing Committees have an opportunity to act after notice of the estimated cost overrun.

LEO M. KRULITZ,
Solicitor.

with San Felipe, including unexpectedly high bids received for construction of a principal project feature (the Pacheco tunnel), I have no evidence before me that the Bureau's current estimates are wrong, and that the cost ceiling will not be exceeded. As noted above, the Bureau has attempted to redesign the project to stay within the authorized cost ceiling but its current estimates reflect that this effort has failed.



Senator MURKOWSKI. Thank you. I would remind members of the panel that the presentations are running 5 minutes plus, and I would again urge you to summarize your remarks. If it's absolutely necessary, I will start the timer, but I would rather not have to do that. So I would ask, again, your indulgence.

I believe Mr. Steven Kinsella is the next witness. Mr. Kinsella, you may proceed.

**STATEMENT OF STEVE KINSELLA, EXECUTIVE DIRECTOR,
UNITED FAMILY FARMERS, INC.**

Mr. KINSELLA. I'll keep it very limited, Chairman Murkowski. Senator MURKOWSKI. Thank you.

Mr. KINSELLA. Senate bill 1553 is a very serious piece of legislation. It is serious for the fact that if it passes in its present state, it could very well result in the continuation of the battle which has long plagued South Dakota's need for sound water development.

The United Family Farmers would like to see, more than anyone, the end to this long-fought battle over the Oahe unit irrigation project.

At a recent meeting on water development, Governor Janklow stated that he would welcome anyone's criticism on his plans for water development and the legislation that will serve as the vehicle to make his plan possible. He stipulated that if anyone does criticize, that criticism must be constructive and it must offer an alternative.

In every case since its beginning, the United Family Farmers have always dealt rationally and soundly with each issue concerning the Oahe project. Considering the statement of the Governor and our history, I am here today to testify on Senator Abdnor's legislation and what we feel can be adjusted in the legislation to better meet the needs of the people of South Dakota in the area of water development and the Oahe project.

Section 2 of 1553 calls for the study of several proposals. The first proposal on the use of the Oahe unit facilities is an area that has been repeatedly studied and discussed. The Bureau of Reclamation spent several million dollars in an attempt to find the best route for the diversion and the most suitable area for the irrigation that would take place under the Oahe project.

After the locations were determined, it was discovered that there were many serious problems in the design, soil suitability, and economics. I'm sure that if the Bureau could have found an area to irrigate closer to the Missouri River and one that was more feasible and cost efficient than the area that they did decide on, they would have.

In a statement in a public hearing in 1977, the project manager for the Bureau of Reclamation stated that:

Alternative federal multipurpose projects similar in size, scope and average cost per acre to the authorized 190 thousand acre Oahe Unit are essentially nonexistent in the 15½-county area.

When considering factors such as size, compactness of service area, suitability of soils, it becomes impossible to locate a feasible alternative of similar magnitude within the geographical boundary of the Oahe Conservancy Subdistrict. Along with the South Dakota and Subdistrict leaders, the Bureau of Reclamation engineers, soil scientists, economists and other technical personnel spent nearly two decades in search of more favorable alternatives before selecting the present plan for submittal to Congress.

As we have stated publicly, we are in favor of the State water plan which was adopted by the South Dakota Legislature, however, we feel that the Secretary in making his determination must follow the wishes of the local people in any of the proposed projects.

Local control has and must dictate the future decisions by Congress, the Secretary and the Governor. An office such as that of the Governor has the potential for repeatedly being faced with decisions of a political nature.

As a result of this, choices of certain projects and studies could also have the potential of being based on political circumstances. The State of South Dakota is organized into subdistricts, whose policies and directions are determined by local elections and input.

It is a model of local control of the planning and decisions on local and areawide water development. We think that the present administration should be appreciative of this model of localized water resource planning.

I have several other comments I will skip over since they are entered into the record.

The United Family Farmers firmly believe that Senator Abdnor's legislation is a definite step in the right direction. South Dakota, if we are to move off of dead center, must start making attempts to put the misfortune of the Oahe unit behind us. However, at the same time, we cannot forget the reasons why the Oahe project failed and why we are in this position today.

I have attached a revised copy of Senate bill 1553 for the committee's consideration. Thank you for the opportunity to present this testimony on behalf of United Family Farmers, and, Senator Murkowski, your willingness to come out to South Dakota demonstrates your concern for the future of South Dakota.

[The prepared statement of Mr. Kinsella follows:]

TESTIMONY FOR THE SENATE SUB-COMMITTEE ON WATER AND POWER
 CHAIRMAN: SENATOR FRANK MURKOWSKI
 PIERRE, SOUTH DAKOTA HEARING ON S-1553

TESTIMONY OF STEVE KINSELLA, EXECUTIVE DIRECTOR FOR THE UNITED FAMILY FARMERS, INC.

CHAIRMAN MUKOWSKI-

Senate Bill 1553 is a very serious piece of legislation. It is serious for the fact that if it passes in it's present state, it could very well result in the continuation of the battle which has long plagued South Dakota's need for sound water development. The United Family Farmers would like to see, more than anyone, the end to this long fought battle over the Oahe Unit Irrigation Project. Unfortunately, Senator Abdnor's legislation does not hold the promise of an early end to this struggle. In fact, what it does promise is the continuation of the doubt and mistrust that has grown as a result of the repeated attempts to circumvent the desires of the landowners in the project area and the area to be impacted by the project.

At a recent meeting on water development, Governor Janklow stated that he would welcome anyones criticism on his plans for water development and the legislation that will serve as the vehicle to make his plan possible. He stipulated that if anyone does criticize, that criticism must be constructive and it must offer an alternative. In every case, since it's beginning, the United Family Farmers have always dealt rationally and soundly with each issue concerning the Oahe Project. Considering the statement of the Governor and our history, I am here today to testify on Senator Abdnor's legislation and what we feel can be adjusted in the legislation to better meet the needs of the people of South Dakota in the area of water development and the Oahe Project.

Section #1 of 1553 calls for the reauthorization of the WEB Water Project. It is our feeling that this section in it's entirety, is not necessary. The WEB Water Project has already received it's authorization and it's funding is contingent upon the agreement that was signed by our Congressional delegation over one year ago. To attempt to ignore this agreement, will in our mind, cast serious doubt in the minds of many, when it comes to negotiations on future water development for South Dakota. It is our understanding, that the difficulty on WEB funding this year, arose as a result of the fact that our delegation was not moving forward with the deauthorization of the Oahe Project per their agreement. We perceive that Congressman Yates will not necessarily change his stance because this legislation does not deauthorize the Oahe Project. Thus, WEB funding and the water that it will provide to 30,000 people, could very well result in being stalled for an unknown amount of time.

Section #2 of 1553 calls for the study of several proposals. The first proposal on the use of Oahe Unit facilities is an area that has been repeatedly studied and discussed. The Bureau of Reclamation spent several million dollars in an attempt to find the best route for the diversion and the most suitable area for the irrigation that would take place under the Oahe Project. After the locations were determined, it was discovered that there were many serious

TESTIMONY OF STEVE KINSELLA
 SENATE SUB-COMMITTEE ON WATER AND POWER
 PAGE-2

problems in design, soil suitability, and economics. I'm sure that if the Bureau of Reclamation could have found an area to irrigate closer to the Missouri River and one that was more feasible and cost efficient than the area that they did decide on, I'm sure they would have chosen that area. In a statement at a public hearing in 1977, the Project Manager for the Bureau of Reclamation stated that, "Alternative federal multipurpose projects similar in size, scope, and average cost per acre to the authorized 190,000 acre Oahe Unit are essentially nonexistent in the 15½-county area. When considering factors such as size, compactness of service area, suitability of soils,...it becomes impossible to locate a feasible alternative of similar magnitude within the geographical boundary of the Oahe Conservancy Sub-District. Along with South Dakota and Sub-District leaders, Bureau of Reclamation engineers, soil scientists, economists, and other technical personnel spent nearly two decades in search of more favorable alternatives before selecting the present plan for submittal to Congress for construction authorization." (exhibit 1)

The second proposal of Section #2 is also questionable. While the United Family Farmers supported the Garrison Project's modification, known as the Governor's Plan, with several conditions, we are aware of the fact that the courts have determined that the authorized Garrison Project requires reauthorization by Congress. We feel that it would be unwise to provide study funding for a project whose fate is questionable. In addition, more institutional arrangements must be made to guarantee that South Dakota's interests are protected.

The third proposal should be left under the control of the local people. It is our understanding that the people in this area do not want a Bureau of Reclamation Project.

As we have stated publicly, we are in favor of the State Water Plan which was adopted by the South Dakota Legislature. However, we feel that the Secretary, in making his determination, must follow the wishes of the local people in any of the proposed projects. Local control has, and must dictate the future decisions by Congress, the Secretary and the Governor. An office, such as that of the Governor, has the potential for repeatedly being faced with decisions of a political nature. As a result of this, choices of certain projects and studies could also have the potential of being based on political circumstances. The State of South Dakota is organized into Sub-Districts whose policies and directions are determined by local elections and input. It is a model of local control of the planning and decisions on local and area wide water development. We think that the present administration should be appreciative of this model of localized water resource planning. We don't feel that it is wise or appropriate for the people of South Dakota to abrogate this local control to anyone. The proposed studies outlined in section #2, should be left to the decisions of these locally elected boards.

Concerning section B, we fully support the fact that Congress should take into account the losses incurred as a result of the development

TESTIMONY OF STEVE KINSELLA
 SENATE SUB-COMMITTEE ON WATER AND POWER
 PAGE-3

of the Pick-Sloan Plan. Yet, the feasibility of water resource projects should be based on their productivity and their benefits to the well being and the structure of our State. To determine productivity, it should be based on their permanent long term ability to produce real wealth from the land and the community and not on a boom syndrome which will benefit certain special interest groups for a short period, during the expenditure of federal funds. Feasibility should be based upon realistic and current interest rates, costs, and prices. If subsidies are used, projects shouldn't be used to create a windfall for a select few. Also, environmental criteria and the risk to the land should be considered, particularly in relation to water quality, salinity, water logging erosion, and flooding. The destruction of wildlife habitat, which results in excessive wildlife mitigation as in the case of the Oahe Project, should be avoided at all cost.

Our position on section D is the same as on section 2A sub. 1. This section, once again is overlooking the model of local control. The sub-districts were organized for this specific reason. They have contracting and taxing authority to formulate repayment schedules.

To us, there is no logic to cancelling the master contracts and participating contracts without deauthorization, unless there is some plan that the Oahe Project will be built. It isn't necessary for Congress to become involved in the termination of the contracts. The Oahe Unit master contract and participating contracts could be administratively terminated by mutual agreement of all parties upon deauthorization. We are deeply and gravely concerned regarding the earlier stated intentions of the sponsors of this legislation to allow the Secretary of Interior to form a new contract with the Governor. (attachment 2) It is our understanding that this would be directly in contradiction with the long standing policies of the Department of Interior to formulate and negotiate directly with the local water users. While we agree that the thought behind section 3A is in the right direction, more appropriate language could be used. Our organization, and others, have received numerous letters pointing to the fact that any alternative to the Oahe Project would require authorization by Congress. This leaves us with the impression that the need to retain the Oahe authorization is unnecessary.

Section 3B of Senate Bill 1553 is unclear. The features of the Oahe Irrigation Unit, as authorized by Congress were to be used to store, transfer, and supply irrigation water for 190,000 acres in Spink and Brown Counties. We know of no other purpose for which these facilities can be used except for the plan that was authorized by Congress. The ultimate stage was never authorized. In addition, we have received correspondence from the Bureau of Reclamation which states that it is their opinion that the removal of these features is based upon the outcome of the studies that this legislation authorizes. We have also received correspondence from Senator Abdnor's office

TESTIMONY OF STEVE KINSELLA
SENATE SUB-COMMITTEE ON WATER AND POWER
PAGE-4

which states that no features of the currently authorized Oahe Unit plan would be constructed without further authorization and funding by Congress. In that sense, the letter stated, section 3B is moot, but it was included affirmatively to assure the Spink and West Brown Irrigation Districts that their concerns have been addressed. The appearance of this letter makes us think that, (1). If further authorization is obtained, these features can be constructed and (2). this section was merely placed in to attempt to give assurance to these Districts and the people they represent that their concerns have been met. This letter proves that the this assurance isn't solid.(attachment 3)

We are in support of section 4. Even though the recent letter from Director Stockman sheds doubt on the ability of South Dakota to retain this benefit which was authorized under the 1944 Flood Control Act. If this benefit can be retained, it should be used through projects that are less wasteful than the Oahe Unit.

The United Family Farmers firmly believe that Senator Abdnor's legislation is a definite step in the right direction. South Dakota, if we are to move off of dead center, must start making attempts to put the misfortune of the Oahe Unit behind us. However, at the same time we cannot forget the reasons why the Oahe Project failed and why we are in this position today.

I have attached a revised copy of Senate Bill 1553 for the Committees consideration. This revised legislation takes into account the need for studies to be conducted on water resource development in South Dakota. These studies should be left to the discretion of the locally elected sub-district boards and this legislation recommends this. This revised legislation also calls for the deauthorization of the Oahe Project, yet at the same time it puts in writing the fact that Congress should honor it's commitments to South Dakota for financial support as compensation for losses incurred as a result of our commitment of resources for the development of the Pick-Sloan Plan.

Thank-you for the opportunity to present the position of the United Family Farmers on this proposed legislation. Your willingness to come to South Dakota, demonstrates your concern for the future of water resource development in South Dakota.

Oahe settlement bill would give Gov. Janklow a key role

Printed from Saturday
By DENNIS CALE
Associated Press. Writer
bill which could lead to
element of the Oahe
gation Project's
formation is being
pared in Washington.
The bill, an outgrowth of
introduced in the
e of Representatives
ear by then Rep. Jim
or, R-S.D., would give
governor a key role in
Oahe settlement, said
Ambur, an aide to
Abdnor.
The bill would let the
ary of the Interior
ate with Gov. Bill
ow on a new pact to
ce the Oahe Unit
ck, Ambur said. The
nor and the state
fines of Water and
ul Resources would
e to trade other South
e water projects for
the authorization if
terior Department
he said.
Authorization hear-

ings would be held in
August if the state's
congressmen and senators
agree and the bill is passed
by Congress, Ambur said
Friday.

The delegation and the
administration of former
President Jimmy Carter
agreed last year to a deal
involving deauthorization
of Oahe for support for the
WEB domestic water
pipeline project. First-year
WEB funding has been re-
ceived, but project officials
say proof of the
delegation's sincerity on
deauthorization will be
needed soon, or second-
year funding of \$35 million
could be lost.

"All WEB is concerned
about is that the delegation
follow through on their
June 18 agreement of last
year and if they do that,"
said Morris Kurie of
Bowdle, WEB board
chairman.

Kurie and Curt Hohn,

Oahe Conservancy Sub-
district manager, said a
contingency fund under
Interior Secretary James
Watt's control has \$33
million which could be
WEB's second-year money.
But separate action will
be taken to assure it is
some of the money is
committed to WEB.

"We (the delegation) will
be sending a letter to the
Interior Department ex-
plaining the delegation's
joint interest in keeping the
WEB funding still active,
within the secretary's con-
tingency fund," said Rick
Foy, aide to Rep. Tom
Daschle, D-S.D.

WEB is still mentioned
as one of the priority
projects for the \$100 million
fund, Foy said.

The Senate Interior
Appropriations subcom-
mittee will begin
examining that portion of
the Interior budget next
week, and Abdnor will try
to get WEB funding ap-

proved regardless of the
Interior Department's re-
sponse to the delegation's
letter, Ambur said.

A bill Abdnor introduced
last year called for a
dollar-for-dollar trade of
the Oahe authorization for
other state water projects.
But Abdnor's new bill will
not mention money.

"We don't want to talk
dollars," Ambur said. "We
want to give the secretary
of the Interior the authority
to open negotiations with
the state of South Dakota
for a contract to be signed
in lieu of the Oahe Unit
contract."

Recent estimates show
the Oahe project, if built
today, would cost \$919
million—nearly double the 1977 estimate of
\$539 million.

Ambur said the new
figure could be a starting
point for the negotiations
between the state and the
Interior Department. If the
delegation backed a bill

containing the \$919 million
figure, "it would raise a lot
of eyebrows" and would
likely fail, Ambur said.

Hohn and a delegation of
north-central South Dakota
water interests met with
Interior and budget of-
ficials in Washington this
week. As long as
reasonable progress
toward Oahe
deauthorization is made,
second-year WEB funding
is possible, Hohn quoted
Office of Management and
Budget officials as saying.

The 1981 Legislature
approved a state water plan,
a 34-project list which
could be the basis for an
Oahe authorization trade,
Hohn said.

Ambur said some people
have already claimed the
draft settlement bill would
give the governor too much
power over water projects.

"It's already been raised
in my preliminary
discussions with some of
these folk," Ambur said.
"But the more we try to
protect special interest
groups, the less likely we'll
be able to pass a bill."

He said delegation
members are leaning
toward congressional
deauthorization hearings
during Congress' August
recess. Ambur said he
hopes several hearings can
be held, but if there are
scheduling problems, a
single hearing in Pierre
might be held.

Abdnor will seek the
administration's support
for the bill, Ambur said.

"The current ad-
ministration is very, very
pro-water development,"
he said. "I hope we can get
their support."

INCIDENCE



United States Department of the Interior

BUREAU OF RECLAMATION
WATER AND POWER RESOURCES SERVICE

WASHINGTON, D.C. 20240

IN REPLY
REFER TO: 735
832.

SEP 2 1981

Mr. Steve Kinsella
Executive Director
United Family Farmers, Inc.
P.O. Box 523
Aberdeen, SD 57401

Dear Mr. Kinsella:

This is in response to your letter of August 22 to Secretary Watt concerning cancellation of the master contract for the Oahe Unit in South Dakota.

The subject of cancellation of the master contract has been mentioned in general discussions that we have had with Governor Janklow on South Dakota water resource development and is, among other matters, included in legislative measures introduced by the members of the South Dakota congressional delegation (S. 1553 and H.R. 4347). The Department of the Interior is still reviewing that legislation and has not taken a position relative to cancellation of the master contract.

Reclamation law requires that there be a local entity with proper taxing and other authorities to assume the contracting responsibilities for a project. This could include the State government as well as some other duly established entity. We do not foresee any great change in our policies in this regard.

Formulating a new contract with any entity for a new project other than the Oahe Unit would depend on a favorable outcome of a feasibility investigation and would require authorization of that new project by the Congress.

Please let us know if you have further questions.

Sincerely yours,

Aldon D. Nielsen
Acting Assistant
Commissioner

JAMES ABDNOR
South Dakota

4337 DAKOTA SENATE OFFICE BUILDING
(605) 434-5351

VERDIE J. C. LONN
ADMINISTRATIVE ASSISTANT

COMMITTEES:
APPROPRIATIONS
ENVIRONMENT AND
PUBLIC WORKS
JOINT ECONOMIC

United States Senate

WASHINGTON, D.C. 20510

September 4, 1981

Mr. Steve Kinsella
Executive Director
United Family Farmers
Box 523
Aberdeen, South Dakota 57401

Dear Mr. Kinsella:

Thank you for your letter of August 23rd concerning S. 1553. Senator Abdnor is in South Dakota, so I am responding on his behalf to avoid delay.

In response to the questions you have raised, please consider the following:

1. The local interests, i.e., the subdistrict and the two irrigation districts, have requested to be absolved of their legal obligations. On the other hand, there seems to be broad consensus that there is a federal obligation to our state, which is represented by the Oahe authorization. While there are those who argue the authorization gives us no additional leverage to bring about fulfillment of the federal obligations, we strongly believe otherwise;

2. If and when federal water development assistance is forthcoming, we would anticipate that a contractual relationship would be required;

3. The entity to contract for construction of any project to use existing Oahe Unit facilities would be a matter of local wishes and State law. We would hope it would be the Oahe Subdistrict, in cooperation with a local irrigation district or districts;

4. No features of the currently authorized Oahe Unit plan would be constructed without further authorization (and funding) by Congress. In that sense, section 3(b) is moot, but it was included affirmatively to assure the Spink and West Brown irrigation districts that their concerns have been addressed; and, finally,

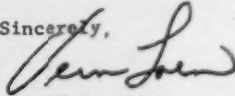
Steve Kinsella
Page 2
September 4, 1981

5. We would expect that any feature required to serve a proposed water development with active local interest would be considered. Those features required for the CENDAK proposal in particular should be considered; but, of course, any decision on the development of such features would be based upon economic justifications, environmental acceptability, and an adequate and legally formalized showing of local support--not to mention national budgetary limitations.

I hope this information is helpful.

With best regards,

Sincerely,



VERNON C. LOEN
Administrative Assistant

VCL/oak

S.1553

BE IT ENACTED BY THE SENATE AND THE HOUSE OF REPRESENTATIVES OF THE UNITED STATES OF AMERICA IN CONGRESS ASSEMBLED, THAT-

(a) THE WEB RURAL WATER DEVELOPMENT PROJECT, AUTHORIZED BY SECTION 9 OF PUBLIC LAW 96-355, IS ~~REAUTHORIZED~~. AMENDED TO EXTEND THE FUNDING DATE BEYOND SEPTEMBER 30, 1981.

(b) THE SECRETARY OF INTERIOR (HEREINAFTER REFERRED TO AS THE "SECRETARY") IS DIRECTED TO PROCEED WITH THE DEVELOPMENT OF THE WEB RURAL WATER DEVELOPMENT PROJECT, CONSISTENT WITH THE TERMS OF SECTION 9(e) OF PUBLIC LAW 96-355, AND TO MAKE AVAILABLE FOR IMMEDIATE OBLIGATION ANY FUNDS APPROPRIATED FOR SUCH PROJECT FOR FISCAL YEAR 1981, ~~EXCEPT THAT SUCH FUNDS SHALL BE MADE AVAILABLE DIRECTLY TO THE WEB ASSOCIATION AND SHALL NOT BE TRANSFERRED TO THE DEPARTMENT OF AGRICULTURE.~~

SECTION 2. (a) THE SECRETARY IS AUTHORIZED, IN COOPERATION WITH THE ~~STATE OF SOUTH DAKOTA~~ CONSERVANCY SUB-DISTRICTS OF SOUTH DAKOTA, TO CONDUCT A STUDY PURSUANT TO THIS ACT WHICH SHALL INCLUDE CONSIDERATION OF-

(1) ~~ALTERNATIVE USES OF FACILITIES CONSTRUCTED FOR USE IN CONJUNCTION WITH THE GAGE UNIT, INITIAL STAGE, JAMES DIVERSION, PICK SLOAN MISSOURI RIVER BASIN PROGRAM, SOUTH DAKOTA.~~

(2) ~~FUTURE USES IN SOUTH DAKOTA OF WATER DELIVERED BY THE GARRISON UNIT, PICK SLOAN MISSOURI RIVER BASIN PROGRAM, NORTH DAKOTA.~~

(3) ~~A MODIFIED PLAN OF DEVELOPMENT FOR THE POLLOCK HERRIES UNIT, SOUTH DAKOTA PUMPING DIVISION, PICK SLOAN MISSOURI RIVER BASIN PROGRAM, SOUTH DAKOTA, INCLUDING ALTERNATIVE HANDS OR REBORES ADREAGER, AND~~

(4) THE POTENTIAL FOR DEVELOPMENT OF ANY OTHER WATER PROJECT OR PROJECTS PROPOSED BY THE ~~GOVERNOR OF THE STATE OF SOUTH DAKOTA~~ CONSERVANCY SUB-DISTRICT OF SOUTH DAKOTA, IN ACCORDANCE WITH THE POLICIES AND PRIORITIES OF THE ~~STATE~~ CONSERVANCY SUB-DISTRICTS, WHICH THE SECRETARY DETERMINES MAY QUALIFY FOR FEDERAL CONSTRUCTION FUNDING UNDER THE TERMS OF THIS SECTION.

(b) IN FORMULATING HIS RECOMMENDATION TO CONGRESS THE SECRETARY SHALL TAKE INTO ACCOUNT THE LAND INUNDATED IN SOUTH DAKOTA UNDER THE PICK-SLOAN MISSOURI BASIN PROGRAM AND THE IRRIGATION DEVELOPMENT AUTHORIZED FOR SOUTH DAKOTA BY THE FLOOD CONTROL ACT OF 1944. IN DETERMINING THE FEASIBILITY OF PROJECTS PROPOSED BY THE ~~STATE~~ SUB-DISTRICTS UNDER THIS SECTION THE SECRETARY SHALL USE CRITERIA ~~NO LESS FAVORABLE THAN THOSE UNDER WHICH THE GAGE UNIT, INITIAL STAGE, WAS AUTHORIZED~~, EXCEPT THAT THE SECRETARY MAY USE OTHER CRITERIA WITH THE CONSENT OF THE ~~STATE~~. BASED UPON CURRENT COSTS OF INVESTMENT AND OPERATION OF DRYLAND AND IRRIGATING FARMS AND PRICES RECEIVED WHICH ARE AND REPRESENTATIVE OF OPERATING BUDGETS OF LOCAL FARMERS IN THE AREA, USING CURRENT RATES OF INTEREST, AND REALISTIC ESTIMATES OF LOCAL FARM ECONOMIES AND INCREASES IN PRODUCTION LEVELS AS A RESULT OF THE PROPOSED PROJECT. THE SECRETARY SHALL ALSO DETERMINE FEASIBILITY BASED UPON MAINTAINING AND ENHANCING WATER QUALITY, MAINTAINING AND PROTECTING LONG TERM FERTILITY OF SOILS, AND PROTECTION OF WILDLIFE HABITAT TO AVOID THE NECESSITY OF WILDLIFE MITIGATION.

(c) THE SECRETARY SHALL REPORT TO CONGRESS THE FINDING OF THE STUDIES, ~~ALONG WITH HIS RECOMMENDATIONS FOR DISPOSITION OF THE GAGE UNIT, INITIAL STAGE, FOR THE DEVELOPMENT OF THE POLLOCK HERRIES UNIT, AND FOR FEDERAL INVOLVEMENT IN OTHER PROJECTS PROPOSED BY THE STATE SUB-DISTRICTS.~~

(d) THE SECRETARY MAY CONTRACT WITH THE ~~STATE~~ SUB-DISTRICTS TO CARRY OUT THE PROVISIONS AUTHORIZED BY THIS SECTION.

(e) THE STUDIES PERFORMED AND THE REPORTS MADE UNDER THIS SECTION SHALL BE OF RECONNAISSANCE, APPRAISAL, OR FEASIBILITY GRADE AS IS APPROPRIATE TO DETERMINE WHETHER FURTHER ACTION ON THE DEVELOPMENT OF THE SECRETARY'S RECOMMENDATION IS WARRANTED.

SECTION 3(a) THE SECRETARY IS AUTHORIZED TO TERMINATE THE MASTER CONTRACTS AND PARTICIPATING AND SECURITY CONTRACTS FOR THE OAHU UNIT INITIAL STAGE WITH MUTUAL AGREEMENT WITH THE OAHU CONSERVANCY SUB-DISTRICT AND SPINK AND WEST BROWN IRRIGATION DISTRICTS AND TO RELEASE ANY AND ALL FUNDS ACCUMULATED BY THE OAHU CONSERVANCY SUB-DISTRICT UNDER THE MASTER CONTRACT. FURTHER PROVIDED, PRIOR TO TERMINATION OF THE CONTRACTS, THE CONSTRUCTION, OPERATION, AND MAINTENANCE BY THE SECRETARY OF THE INITIAL STAGE OAHU UNIT, JAMES DIVERSION, MISSOURI RIVER BASIN PROJECT, SOUTH DAKOTA, AUTHORIZED BY THE ACTS OF AUGUST 3, 1968 (PUBLIC LAW 90-453; 82 STAT. 824), AND OCTOBER 27, 1972 (PUBLIC LAW 92-577; 86 STAT. 1265), FOR THE PURPOSE OF FURNISHING A SURFACE IRRIGATION WATER SUPPLY AND FOR OTHER PURPOSES, IS HEREBY DEAUTHORIZED AND IS NO LONGER AN INTEGRAL PHYSICAL OR FINANCIAL PART OF THE COMPREHENSIVE PICK-SLOAN MISSOURI RIVER BASIN PROGRAM THAT WAS APPROVED BY SECTION 9 OF THE ACT OF DECEMBER 22, 1944 (58 STAT. 891), AS AMENDED AND SUPPLEMENTED.

(b) WITHIN THREE MONTHS FOLLOWING THE DATE OF ENACTMENT OF THIS ACT, THE SECRETARY SHALL SUBMIT TO CONGRESS HIS RECOMMENDATIONS FOR THE DISPOSITION OF THOSE OAHU UNIT WORKS, FACILITIES, AND RELATED PROPERTIES THAT HAVE BEEN ACQUIRED OR CONSTRUCTED. SUCH RECOMMENDATIONS SHALL BE DEVELOPED BY THE SECRETARY IN COOPERATION WITH THE LOCAL CONTRACTING ENTITY, OAHU CONSERVATION SUB-DISTRICT, IN CONSULTATION WITH OTHER FEDERAL AGENCIES AND THE GENERAL PUBLIC. THE SECRETARY IS HEREBY AUTHORIZED TO IMPLEMENT SUCH RECOMMENDATION, EXCEPT THAT NO APPROPRIATION SHALL BE USED FOR IMPLEMENTING SUCH RECOMMENDATIONS FOR DISPOSITION OF THE OAHU UNIT WORKS, FACILITIES AND RELATED PROPERTIES PRIOR TO SIXTY CALENDAR DAYS FROM THE DATE ON WHICH THE SECRETARY'S RECOMMENDATIONS HAVE BEEN SUBMITTED TO CONGRESS.

(c) THOSE FUNDS PREVIOUSLY EXPENDED PURSUANT TO AUTHORITIES CONTAINED IN THE ACTS OF AUGUST 3, 1968 (PUBLIC LAW 90-453; 82 STAT. 824), AND OCTOBER 27, 1972 (PUBLIC LAW 92-577, 86 STAT. 1265), SHALL BE CHARGED AGAINST THE GENERAL FUND OF THE TREASURY OF THE UNITED STATES AND SHALL NOT BE CHARGED AGAINST THE PICK-SLOAN MISSOURI BASIN PROGRAM, EXCEPT THAT ALL COSTS ASSIGNED TO THE INITIAL STAGE OAHU UNIT WHICH ARE DEFERRED WITHOUT INTEREST SHALL BE RETAINED AS INTEREST FREE COSTS OF THE PICK-SLOAN MISSOURI RIVER BASIN PROGRAM.

(d) THOSE REVENUES DERIVED FROM THE DISPOSITION, UNDER THE AUTHORITY OF THIS ACT, OF OAHU UNIT WORKS, FACILITIES, AND RELATED PROPERTIES SHALL BE DEPOSITED TO THE GENERAL FUND OF THE TREASURY OF THE UNITED STATES. SUCH PROPERTIES SHALL NOT BE DISPOSED OF AT LESS THAN THE FAIR MARKET VALUE AT THE TIME OF DISPOSITION, AS DETERMINED BY THE SECRETARY. IN SUCH DISPOSITION, THE SECRETARY IS AUTHORIZED, NOTWITHSTANDING PROVISIONS OF LAW TO THE CONTRARY, TO GIVE FIRST RIGHT REFUSAL FOR THE PURCHASE OF SUCH PROPERTIES TO PREVIOUS OWNERS OF ACQUIRED PROPERTY OR THEIR HEIRS, AS THE SECRETARY MAY DETERMINE.

(e) THIS ACT IS DECLARED TO BE A SUPPLEMENT TO THE RECLAMATION ACT OF JUNE 17, 1902 (32 STAT. 388), AND ACTS AMENDATORY AND SUPPLEMENTARY THERETO, WHICH SHALL GOVERN THE IMPLEMENTATION OF THIS ACT EXCEPT AS OTHERWISE PROVIDED HEREIN.

(f) THERE ARE AUTHORIZED TO BE APPROPRIATED SUCH SUMS AS MAY BE REQUIRED TO CARRY OUT THE PROVISIONS OF SECTION (3) OF THIS ACT, FOR FISCAL YEAR BEGINNING AFTER SEPTEMBER 30, 1981.

(g) NOTHING CONTAINED IN THIS SECTION IS INTENDED TO INTERFERE WITH THE RIGHTS OF THE STATE OF SOUTH DAKOTA AS THEY PERTAIN TO THE IDENTIFICATION AND DEVELOPMENT OF ALTERNATIVE WATER DEVELOPMENT PROJECTS. IT IS THE SENSE OF CONGRESS THAT THE UNITED STATES SHALL HONOR ITS COMMITMENTS TO THE STATE OF SOUTH DAKOTA FOR FINANCIAL AND TECHNICAL SUPPORT OF WATER DEVELOPMENT AS COMPENSATION FOR LOSSES INCURRED AS A RESULT OF EARLIER COMMITMENTS OF RESOURCES FOR THE PICK-SLOAN MISSOURI RIVER BASIN DEVELOPMENT IN SOUTH DAKOTA.

(h) THOSE FEATURES OF THE AUTHORIZED PLAN OF DEVELOPMENT FOR THE OAHU UNIT, INITIAL STAGE, WHICH WERE DESIGNED FOR AND COULD BE USED ONLY TO DELIVER IRRIGATION WATER TO THE SPINK AND WEST BROWN IRRIGATION DISTRICTS SHALL NOT BE CONSTRUCTED BY THE SECRETARY, BUT NOTHING IN THIS ACT SHALL BE DEEMED TO LIMIT THE AUTHORITY OF THE SECRETARY TO DEVELOP OTHER FEATURES, BASED UPON THE STUDY AUTHORIZED BY SECTION 2(a)(4) OF THIS ACT.

SECTION 4. THE SECRETARY OF THE INTERIOR, IN COOPERATION WITH THE DEPARTMENT OF ENERGY, IS AUTHORIZED TO MAKE AVAILABLE MISSOURI RIVER BASIN PROGRAM PUMPING POWER TO IRRIGATE PROJECTS CONSTRUCTED IN SOUTH DAKOTA BY INDIAN TRIBES OR OTHER PUBLIC ENTITIES ORGANIZED UNDER STATE LAW AND WHICH HAVE BEEN AUTHORIZED BY THE FLOOD CONTROL ACT OF 1944 TO RECEIVE SUCH POWER. SUCH POWER SHALL BE MADE AVAILABLE AT THE REQUEST OF THE STATE OF SOUTH DAKOTA CONSERVANCY SUB-DISTRICT OR AN INDIAN TRIBE, REGARDLESS OF THE SOURCE OF FUNDING FOR SUCH IRRIGATION PROJECTS.

Senator MURKOWSKI. Thank you, Mr. Kinsella. We appreciate your summary of your remarks, and believe me, it's a pleasure to be here. And thank you.

We have one more witness, Mr. George Piper.

STATEMENT OF GEORGE PIPER, UNITED FAMILY FARMERS, INC.

Mr. PIPER. Mr. Chairman, Senator Abdnor, my name is George Piper, and our family farms in Beadle County. And I was one of the original organizers of United Family Farmers, and I served as president of that organization for 4 years.

During the long controversy on the Oahe issue, we have always been told and do understand that the Congress will have the final decision on the issue.

It's very gratifying that you are holding this public hearing to initiate that process so that we will reach a final conclusion on the Oahe project, and it is very gratifying that it's an open and objective hearing.

I can only ask the committee that they be equally objective and open in their continuing deliberations on any legislation which grows out of this process to resolve the Oahe issue, that a consideration of deauthorization be made a part of that legislation.

Deauthorization has been a legislative issue before the Congress, and it is currently before the Congress, and I only guess I hope that the committee, the specific committee that is going to deal with this right now take this into consideration also.

I have prepared some longer remarks, which I will ask that be entered into the record.

Senator MURKOWSKI. It will be entered into the record.

Mr. PIPER. I will continue with just a couple of points that I wanted to bring up. Now the legislation in 1553, which we are considering, calls for the authorizing of studies for the use of Oahe unit features. I want to point out a reason why I am concerned about the continuation of a study of an open diversion plan.

More and more frequently these days, we are told about the importance of water, the conservation of water, and we are warned that it is becoming a very scarce resource for the whole country. Now, I have looked at some of the facts regarding the efficiency of an open diversion system and of the Oahe plan.

At first some of these figures were very surprising to me and unbelievable, but I rechecked them and had a number of my friends look them over, too. But the Bureau of Reclamation in their own data shows that 39 percent of the water in the Oahe system would be wasted through seepage and evaporation and operational losses.

Now that—it's just unbelievable, but that amount of water that is wasted each year amounts to 231,700 acre-feet, or over 75 billion gallons of water. That's enough to irrigate 154,000 acres; that's enough to supply the annual use of the nine largest cities in eastern South Dakota for 7 years; that's enough to supply a city of over 2 million persons, which is over three times the population of South Dakota; and it's enough to supply the city of Huron for 109 years. And that's lost every year.

Now, as I understand the master plan of the CENDAK proposal that is currently being evaluated—

Senator MURKOWSKI. Where does that water go now?

Mr. PIPER. Primarily through canal seepage and reservoir evaporation.

Senator MURKOWSKI. Are there canals in the area?

Mr. PIPER. I'm speaking only to a point in the planning of an open diversion system. If you misunderstood that—I feel that I am bringing this out because I think that the committee is faced not only with some legislative issues dealing with, you know, deauthorization or authorization, but the bill also speaks to asking for future studies. And I think we have to look at the merits of any future studies that might be authorized. So that's why I was really just bringing that point out.

I'd like to—I will close with one more point. Now, it is—some say that the Oahe authorization, that is the bill, the act was passed in 1968, that's what I believe it to be, the authorization for the Oahe unit represents some Federal obligation to the State.

Now, there may be some political considerations for that position but, Senator, I really don't understand what the legislative conditions are for that position, because the Oahe is a very specific authorization for a specific plan. We say it's not going to be built. Any appropriations that are funded under that authorization can only be used for that plan, and so I fail to see the legislative issue that is—that reason it is brought about.

That concludes my remarks, and I want to also compliment the committee for holding—conducting this hearing in such a fashion that you didn't only listen and appreciate the comments of our elected officials and political leaders, but you have come to South Dakota and listened to the people.

We have to deal in the past when we are considering one of these projects at the grassroots level, and I think that the facts the United Family Farmers has tried to present to you, plus I know there are an abundance of facts that other groups have presented to you are very important in the record of this hearing.

[The prepared statement of Mr. Piper follows:]

STATEMENT BY GEORGE PIPER, CARPENTER, SOUTH DAKOTA 57322
UNITED STATES SENATE SUBCOMMITTEE ON WATER & POWER
PIERRE, SOUTH DAKOTA, SEPTEMBER 12, 1981
HONORABLE FRANK MURKOWSKI, PRESIDING

INTRODUCTION

After many years of controversy over the Oahe Irrigation Project, it is gratifying that the Congress is conducting this open objective hearing to initiate the process to make a final determination on the Oahe Unit.

When the facts were known, the project lost favor among the local people for whom it was intended to benefit. The project should now be deauthorized. The farmers have determined through the open political process that they do not want to take the risk that the project presents to the land and the family farm institution. Further they ask that the threat be removed from them. That is not too much to ask.

Deauthorization has been a legislative issue before the Congress since 1978 when it was first sponsored by Senator James Abourezk. Deauthorization was proposed in legislation sponsored in 1980 by Senator McGovern, Senator Pressler, Representative Daschle, and Representative Abdnor, and legislation to deauthorize Oahe is pending before this session of Congress.

Deauthorization is a logical action for the Congress to take. The authorization passed by Congress in 1968 cannot be modified or changed without new authority. Deauthorization is appropriate for the people of South Dakota, to get rid of a project that is not going to be built, and to get rid of the controversy that is preventing productive action on water projects that are needed.

This report is submitted in all respect to assist the Subcommittee and the Congress in determining the facts on the Oahe issue, and in support of deauthorization of the Oahe Unit.

CHAPTER I

A) THE Oahe PLAN

The Oahe Irrigation Unit (hereafter called Oahe Unit or project) is a plan by the Bureau of Reclamation to pump water from the Oahe Reservoir on the Missouri River for delivery through a system of diversion canals and holding reservoirs for irrigation along the James River in northeastern South Dakota. In 1968 Congress authorized the construction of features to irrigate 190,000 acres in Spink and Brown Counties¹ (Figure 1). Although principally for irrigation, the plan also proposed recreation development at reservoir sites, and municipal and industrial water service (M&I) for towns in the vicinity of the project. Authorization of M&I water supply studies was delayed until 1972². The estimated cost for M&I water service from Oahe Unit for the most towns in the area are incomplete.

Benefits from the Oahe Unit are apportioned according to the following functions:³

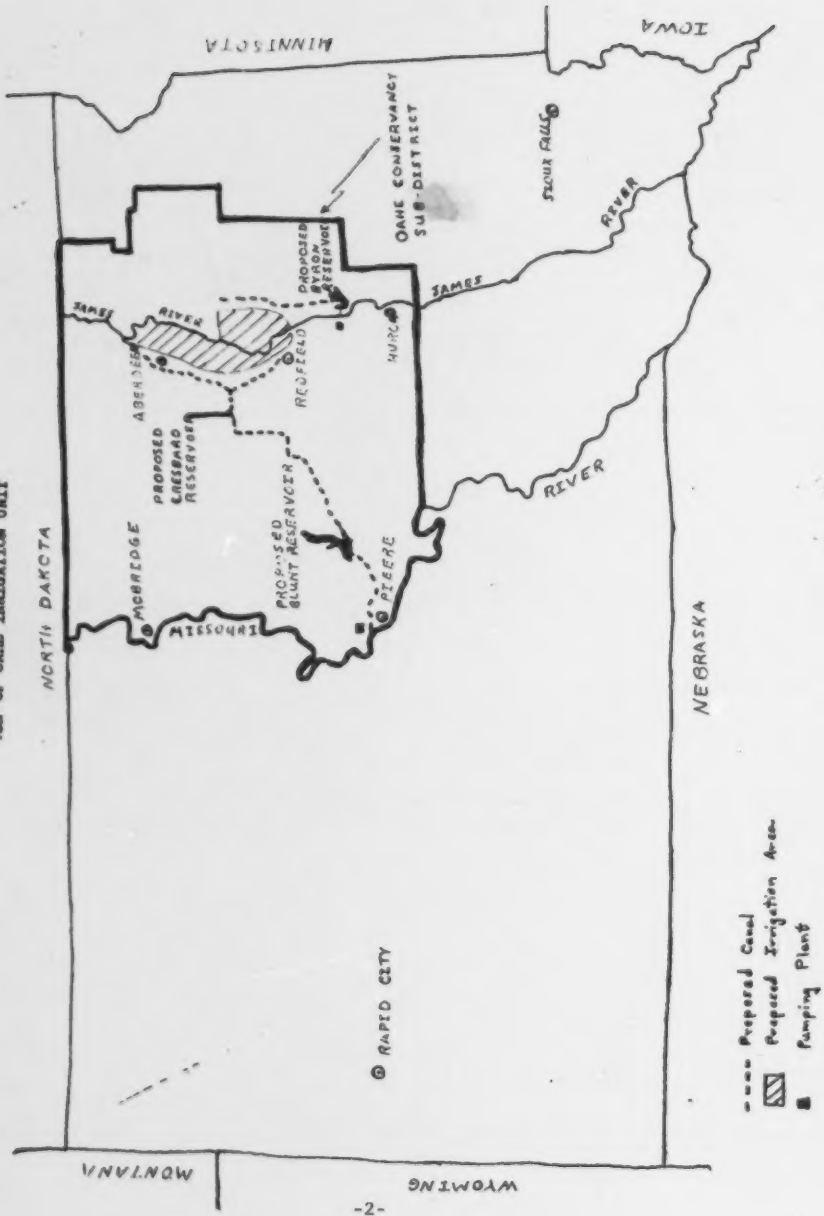
Irrigation	90%
Recreation	4%
M&I Water	3%
Unemployment	2%

The project would be developed according to federal law and regulation which provide for the protection of fish and wildlife resources. The plan requires the acquisition of lands for mitigation of habitat destroyed through development.

The project would include the installation of three dams and reservoirs, hundreds of miles of delivery canals and open drains, and an elaborate network of underground tile drains. The plan also calls for channelization of 120 miles of natural James River channel.

Irrigation from this project was to stabilize production on 190,000 acres during dry years. Congress intended that the project create 500 new farms in the area⁴.

FIGURE 1
MAP OF OAHB IRRIGATION UNIT



CHAPTER II

SUMMARY This chapter examines the authorization and contractual arrangements of the Oahe Unit.

Congress authorized construction of the Oahe Unit in 1968 based on a specific plan for diversion facilities to supply water for irrigation to 190,000 acres selected along the James River, and upon the Bureau of Reclamation's determination of the feasibility of the plan. Congress also authorized the necessary appropriations within a cost ceiling to fund the construction of the plan.

Federal reclamation law requires that there be a local entity with proper taxing and other authorities to assume contracting responsibilities for a project. Accordingly, the Secretary of Interior executed a Master Contract for the Oahe Unit with the Oahe Conservancy Sub-District in 1969.

The Department of Interior has concluded that the several changes and modifications suggested for the Oahe Unit since the project was halted are not allowable under the 1968 authorizing Act. The Secretary would need new authority from Congress to proceed with the planning of any changes and modifications.

AUTHORITIES AND CONTRACTURAL RELATIONSHIPSA) OAHU UNIT AUTHORIZATION

General authority for planning federal irrigation development using Missouri River waters in South Dakota was included in the 1944 Flood Control Act which authorized the Pick-Sloan Missouri River Basin Program. The mainstem

dams of the Missouri River were constructed under this authority. The dams and reservoirs were to provide flood protection, generation of hydroelectrical energy, and water storage. The Oahe dam and reservoir were completed in 1962.

Specific authority for construction of irrigation facilities of the Oahe Unit was granted by Congress in 1968 with enactment of Public Law 90-453. This law authorized funding and construction of facilities for irrigation of 190,000 acres as an initial stage of the Oahe Project. The authorization was based on a plan outlined in House Document #163 which defined the location of facilities for the project and identified the lands for irrigation (Figure 1). The Bureau of Reclamation continued planning for the initial stage and reported further details in the Definite Plan Report (1971) and Environmental Impact Statement (1973). Subsequent administrative and legal review shows that the intent of Congress was very specific and confined to the purposes and plans approved in 1968. 5,6,7

B) MODIFICATIONS AND CHANGES NOT ALLOWABLE UNDER CURRENT AUTHORIZATION

Administrative review by the U.S. Department of Interior has determined that further study, planning and funding of modifications and changes of the Oahe Unit are not allowable under the 1968 authorization⁶.

After the project was halted in 1977, several proposals were advanced to modify the Oahe plan.⁸ These modifications proposed the continuation of development of the canal and reservoir system but to deviate from the original plan generally in two ways: (1) to use the facilities as a municipal water delivery system for towns in the James River Valley while deferring irrigation, and (2) by relocating the irrigation service to other lands along the main canals and other areas outside of the originally proposed irrigation site. These types of changes are sufficiently different from the original plan and intent of Congress, and would require new authorization.^{6,7}

With regard to the proposal of using Oahe facilities for M&I water while deferring irrigation, the Solicitor states:

"... a review of the legislative reports further explaining Congress' intent indicates that M&I service was always intended to be incidental to irrigation. . . , M&I service was planned for areas that could be served from irrigation canals carrying water to 190,000 acres in the Lake Plain area adjacent to the James River in Brown and Spink Counties. . . ."

"... we are not, in my opinion, authorized to go forward with a M&I delivery system knowing in all probability that those facilities will never be used for irrigation."

Federal assistance for irrigation requires that the lands must meet certain federal standards, and must be certified as irrigable by the Secretary of Interior.⁹ The Regional Directors states:

"A Federal investment would not be made in irrigation facilities until the project lands proposed for service have been certified as irrigable by the Secretary of the Interior and a contract governing a portion of this in-

vestment up to the ability of the water users has been secured."

The only lands within the area of the proposed project facilities certified for irrigation and where landowners have executed a contract for water service are the lands in the Spink County and West Brown Irrigation Districts. The Bureau determined in early studies that much of the canalside lands were not suitable because they would not meet standards for drainage, and further stated that the Secretary would not be certifying canalside lands.¹⁰

Modifications and changes of the Oahe Unit popularly identified as "Canal-side Irrigation", Lower James Modification", and "CENDAK", all which propose using Oahe facilities for irrigation of lands outside of the original irrigation site, are not allowable under the current authorization, and lacking any change in that authorization these projects would not be accomplished.

C) CONTRACTURAL RELATIONSHIPS

Contractural relationships for construction, operation, and repayment of the Oahe Unit are between the federal government and the local people, according to long-standing federal policies. The U.S. Department of Interior represents the interest of the United States, and the interests of local people are represented through the Oahe Conservancy Sub-District, and the Irrigation Districts.

In 1969 the Oahe Sub-District Board and the U.S. Department of Interior finalized negotiations and signed the Oahe Master Contract.¹¹ The Master Contract essentially provides for operation and maintenance of the project.¹² The Oahe Sub-District in return has agreed to repay a portion of the construction costs, and the costs for operation and maintenance for irrigation of 190,000 acres of land. The period of the contract is for 50 years following the first delivery of water. The Oahe Sub-District serves as the primary contracting entity for local interest in the entire project, and subsequently makes participating contracts with water users.

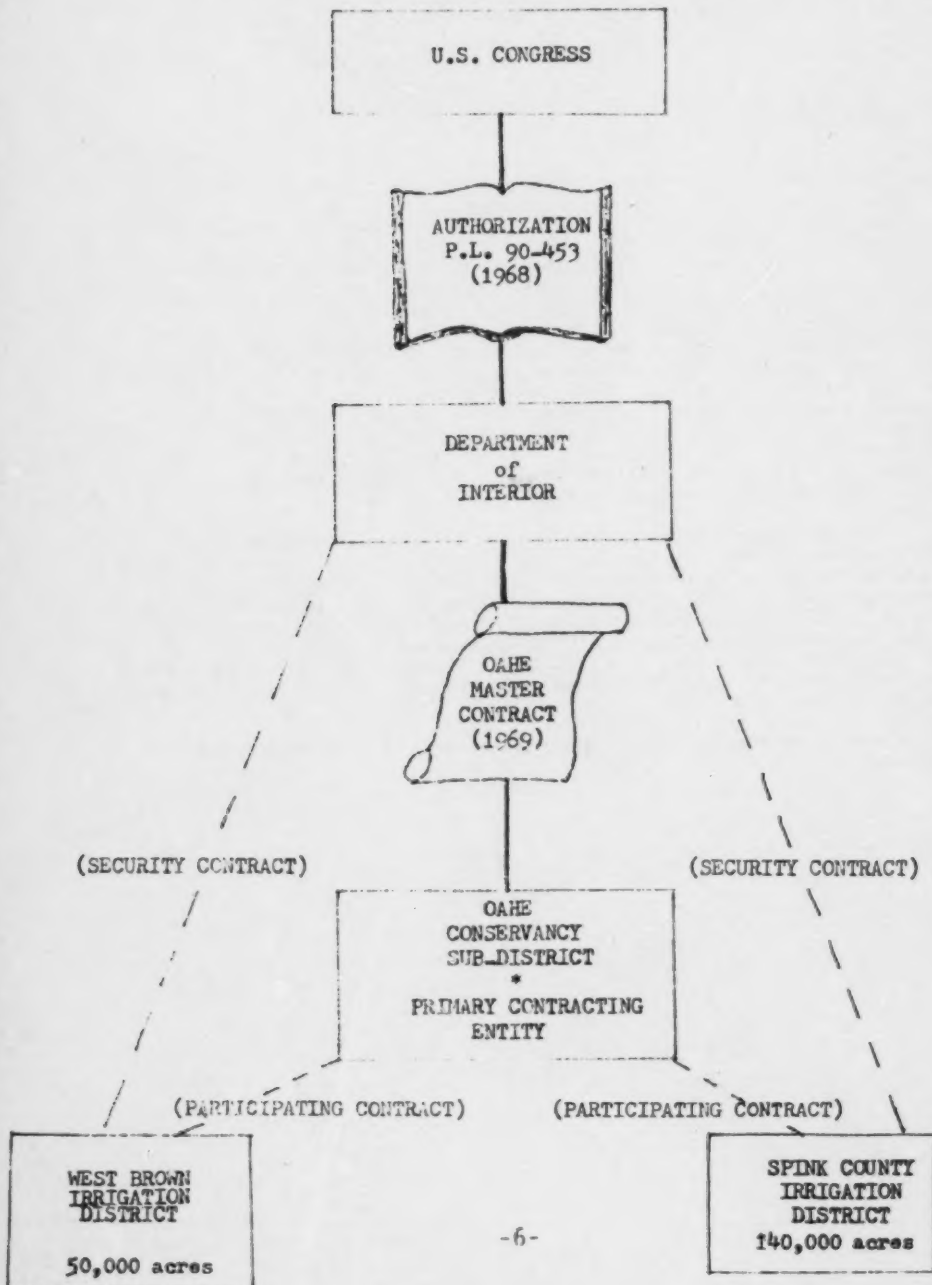
The Oahe Sub-District executed participating contracts with the Spink County and West Brown Irrigation Districts in 1969. Through these participating contracts the irrigation districts have agreed to pay the sub-district the charges assessed to the land for irrigation water service. To insure that the federal government regains that portion of the reimbursable costs owed by water users, each irrigation district has formed a security contract with the Department of Interior. The security contract obligates the irrigation district to make payment directly to the federal government if the sub-district should fail to pay such costs.

Figure 2 outlines the authorities and contractual relationships for Oahe Unit.

FIGURE 2

O.A.H.E. UNIT

AUTHORIZATION & CONTRACT RELATIONSHIPS



Through the enactment of the authorizing legislation Congress has provided authority to the Bureau of Reclamation through the Department of Interior to construct the project. Congress would provide annual appropriation of funds to complete the project over the construction period.

The Oahe Conservancy Sub-District meets its obligations through powers granted by statutes of the State of South Dakota, and mandated by the electorate of the sub-district. Primary powers of the Oahe Sub-District include (a) taxation to a maximum of one mil on all real and personal property within the 15½ counties of its jurisdiction, and (b) authority to contract for planning and development of local water projects. The sub-district is governed by a board of 11 members elected by the local citizens.

D) SPINK COUNTY IRRIGATION DISTRICT ASKS CONTRACT TERMINATION

In May of 1979 the Board of Directors of the Spink County Irrigation District adopted a new policy seeking termination of the districts contracts with the Department of Interior and the Oahe Sub-District. Interior has responded through a solicitor's opinion which states that the contract contains certain rights and obligations which cannot be waived without congressional action and therefore the Department cannot terminate the contract. The Solicitor points out that because monies are expended, termination of the contracts by agreement among the parties now would constitute de facto deauthorization which the department does not have the authority. The Solicitor recognizes that only Congress has the authority to deauthorize the project.

CHAPTER III

SUMMARY This chapter examines the costs and repayments of the Oahe Project.

The total cost of Oahe Unit was estimated at \$537 Million based on 1977 prices. Unofficial estimates currently (1981) place the cost at over \$900 Million. Approximately 85% of the cost is allocated for irrigation, making the per acre federal investment \$2,423 (1977 prices). The cost of the project has increased at an average rate of \$33 Million annually since 1970.

Costs for Oahe are accounted with the Pick-Sloan Missouri River Basin Program account managed by the Bureau of Reclamation and Department of Energy. All costs for irrigation purposes of the Oahe Unit are to be reimbursed without interest to the account within 50 years after first water delivery. The latest repayment schedule based on 1977 costs charges \$33 Million to be repaid by irrigators and \$427 Million to be repaid by electric power users from an area covering all or portions of ten Missouri River Basin states. The amount repaid

by irrigators was fixed in 1969 by the Oahe Unit Master Contract. All increases in costs due to inflation since 1969 is charged to power users. The latest estimate shows power users would repay 92% of the irrigation costs.

The Bureau of Reclamation contends that the costs of Oahe will not affect power rates currently or in the future. However, the Bureau has not demonstrated that power rates will not be affected during the time that irrigation costs must be repaid, particularly in light of the facts that (1) project costs are inflating at an annual rate of \$33 Million, and (2) electrical users must absorb all increases in reimbursable costs for irrigation due to inflation.

The Bureau has also threatened to raise power rates if Oahe is not built. However, federal auditors who have recently examined the Pick-Sloan account were not able to verify the Bureau's claim. Further, the Bureau admits that they lack the authority to alter the account which would necessitate a power rate increase.

Instead of making threats because of their dissatisfaction from losing the Oahe Unit, the Bureau should (1) determine the benefit to the Pick-Sloan account by eliminating a half billion dollar project, and (2) determine the benefit to the federal taxpayer by saving the cost of interest over 50 years on \$460 Million allocated to irrigation.

An audit of the Pick-Sloan account completed in 1978 pointed out that the account is being managed in a very unbusiness-like manner, and concluded that the financial posture of the Pick-Sloan program is uncertain and based on unrealistic assumptions.

WHAT DOES IT COST? AND WHO PAYS?

A) OAHU UNIT COSTS

The latest estimated total cost of the Oahe Irrigation Unit is \$537,590,000, based on 1977 prices. The Bureau has refused to update the cost estimates since the project was halted.⁷⁶ Costs for the various purposes of the project are shown in Table 1.

TABLE 1

OAHU UNIT COST ALLOCATIONS FOR VARIOUS PURPOSES*

<u>Project Purpose</u>	<u>AMOUNT</u>
Irrigation.	\$460,457,000
M&I Water	26,542,000

TABLE 1, Cont.

Fish & Wildlife & Recreation.	36,532,000
Other (Flood Control, Highway Improvement, Future Capacity)	13,558,000
TOTAL	\$537,590,000

(Based on 1977 costs)

(*Project Data Sheet, U.S. Bureau of Reclamation,
January 1, 1979.13)

Approximately 85% of the total cost is allocated for irrigation. The per acre federal investment for irrigation is \$2,423.

B) AFFECT OF INFLATION

During the nine-year period (1970-1979) the costs of the Oahe Unit more than doubled from \$237,798,000 to \$537,590,000. The average yearly increase during the nine-year period was \$33,310,000. Construction would take another 15 years to complete. Continuation of the present rate of inflation would boost the total cost of the project to well over a billion dollars by the time the construction is completed.

The per acre federal investment for irrigation increased 124% over the nine-year period.

C) THE PICK-SLOAN ACCOUNT

Reimbursable costs of the Oahe Unit are charged against the Pick-Sloan Missouri River Basin Program. The Pick-Sloan program consists of a large number of federally financed water resource development projects of the Missouri River Basin. The Pick-Sloan system of projects include the Missouri River mainstem dams and reservoirs, hydroelectric power plants and transmission lines, and diversion facilities for irrigation. Most of the storage reservoirs and hydroelectric plants are complete. Construction of irrigation facilities is only beginning. The Pick-Sloan program functions as a single financial entity.¹⁴ All costs and repayments are handled in a single account. The costs of the Oahe Irrigation facilities are added to the account along with the costs of all other power and irrigation projects of the system.

Revenues to repay the costs charged to the Pick-Sloan account are obtained primarily from the sale of hydroelectric power. Irrigators and M&I water users are assessed to repay a portion of construction costs and operation and maintenance costs of the storage, pumping and diversion canals. The vast majority of the costs of these facilities are repayed by power users.

Repayment of the costs of the Pick-Sloan system is according to the following:¹⁵

- Power revenues repay the investment allocated to Pick-Sloan power generation facilities and transmission lines including replacements, with interest, within 50 years after completion of any power facilities.
- Power revenues also repay a portion of the investment for irrigation facilities, without interest. This assistance to irrigation is supposed to be repaid within a 50-year period.
- Irrigators repay a portion of the investment for irrigation facilities without interest. The irrigators share will be repayed under contract and assessed each year for 40 years following a 10-year development period.
- Municipal and industrial water users are required to repay the investment allocated to M&I water facilities with interest. Power revenues are not expected to repay M&I water investment.

Federal investment in other Pick-Sloan project purposes (navigation, flood control, recreation, fish & wildlife) are mostly non-reimbursable. Recreation and fish and wildlife are charged minor amounts for repayment, but these costs are not reimbursed from power revenues.

D) REPAYMENT SCHEDULE FOR Oahe UNIT

Repayment of the costs for Oahe Unit and the source of revenues are shown in Table 2.

TABLE 2

REPAYMENT OF Oahe UNIT COSTS*

<u>Revenue Source</u>	<u>Amount</u>
Power Users.	\$427,017,000
Irrigators	33,440,000
M&I Water Users.	26,542,000
Fish & Wildlife & Recreation	2,281,000
Other (Future Capacity	7,410,000
Non-reimbursable	40,900,000
TOTAL	\$537,590,000
(Based on 1977 costs)	.

(*Project Data Sheet, U.S. Bureau of Reclamation, January 1, 1979.¹³)

Power users repay 92% of irrigation costs of Oahe Unit (Table 3).

TABLE 3

REPAYMENT OF IRRIGATION INVESTMENT OAHÉ UNIT

Total Per Acre Cost	\$2,423
Repaid by Power Users	\$2,247 (92%)
Repaid by Irrigators	\$ 176 (8%)

E) INFLATIONARY COSTS FOR IRRIGATION BORN BY POWER USERS

In the feasibility analysis of Oahe Unit, the Bureau estimated the amount of the investment cost which the irrigators would be able to repay based on what their anticipated income as a result of irrigation. The remainder of the investment costs above the irrigators ability to pay was assigned for repayment by power users. The subsidy that power users would provide for repayment of irrigation development has always amounted to over 80% of the costs.

The exact amount of the investment costs which irrigators would repay was a matter negotiated as part of the Oahe Master Contract between the Oahe Sub-District and the United States. The total amount of \$33,440,000 which irrigators would repay, was fixed at the time the Master Contract was signed in 1969. All additional costs for irrigation due to inflation since 1969 is to be repaid by Pick-Sloan power users. Over the ten-year period since the Master Contract was signed, inflation has added a total of \$254,667,000 to the costs charged to power users. The affect of inflation on the costs chargeable to power users is shown in Table 4 and Figure 3.

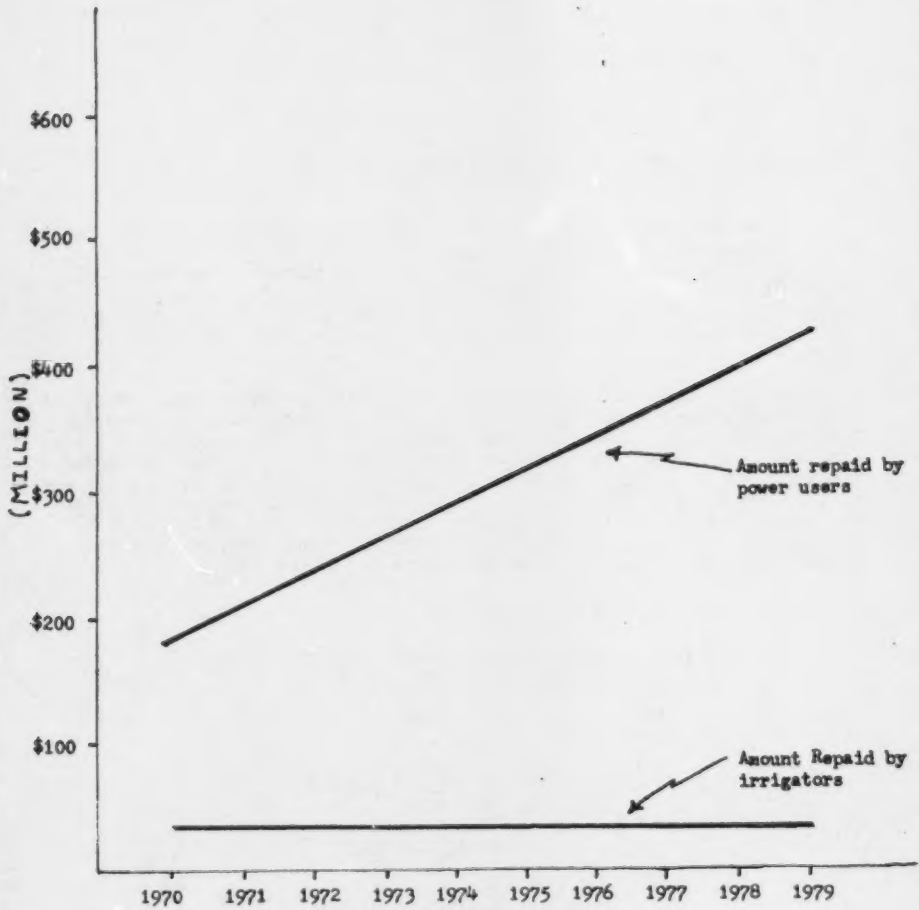
TABLE 4

YEARLY COSTS CHARGED TO POWER USERS
FOR OAHÉ IRRIGATION (1970-1979)*

<u>Year</u>	<u>Amount</u>
1970	\$172,350,000
1971	\$226,666,000
1972	Data Not Available
1973	\$263,426,000
1974	\$284,672,000
1975	\$305,112,000
1976	\$367,432,000
1977	\$407,953,000
1978	Data Not Available
1979	\$427,017,000

*Project Data Sheets, U.S. Bureau of Reclamation, 1970, 1971, 1973, 1974, 1975, 1976, 1977, 1979.

FIGURE 3
EFFECTS OF INFLATION ON COSTS
REPAID BY POWER USERS AND IRRIGATORS



F) WHO ARE THE POWER USERS CHARGED FOR Oahe IRRIGATION?

All cooperatives, municipalities, public and private institutions, and individuals who purchase power produced by the Pick-Sloan generation system would share the costs for irrigation development of the Oahe Unit. The geographical area from which revenues are collected through the sale of electrical power by the Pick-Sloan system is composed of all or parts of ten states (Figure 4). The marketing area includes the eastern three-fourths of Montana, all of the states of North Dakota, South Dakota and Nebraska; the western third of the states of Minnesota and Iowa; the north and eastern three-fourths of Wyoming; and the eastern half of Colorado; and areas in Missouri and Kansas. Electric rates charged to any customer purchasing Pick-Sloan produced power within the area would be affected by costs of Oahe irrigation.

G) FINANCIAL ACCOUNT OF FEDERAL INVESTMENT IS UNCERTAIN

An internal audit by the Department of Interior's Office of Audit & Investigation completed in 1978 shows that the account of the Pick-Sloan Missouri River Basin Program is operated in a very unbusiness-like manner.¹⁵ This finding is contrary to the enabling legislation which intended that the account would be run on sound business practices. The auditors concluded that the financial posture of the Pick-Sloan system of power and irrigation projects is uncertain and based on unrealistic assumptions. The auditors state the net effect is that no-one knows, within reasonable limits of accuracy, what rates to charge power users and M&I water users in order to repay the costs of the projects.

Federal irrigation projects like Oahe and others of the Pick-Sloan system requiring massive and extensive diversion facilities are very costly and far above the irrigators ability to repay. The federal government therefore has rationalized that revenues derived from sale of electric energy produced from the power generating features of the system would be used to subsidize the repayment of the costs for irrigation facilities. Some unique accounting practices have been devised for allocating costs and scheduling repayments for irrigation facilities:

- a) Costs to construct irrigation facilities are repaid without interest.
- b) Sixteen percent of the costs invested in power facilities of the Pick-Sloan system which are jointly used for irrigation are suballocated to irrigation projects and are to be repaid without interest.
- c) Approximately 80% of the costs for irrigation facilities is charged for repayment by power revenues. (In the case of the Oahe Irrigation Unit, over 90% of the costs for irrigation is charged to power revenues, and that amount is increasing each year because of inflation.)

FIGURE 4
POWER MARKETING AREA AFFECTED BY OASE UNIT COSTS



The Pick-Sloan Program power customers are located in all Missouri River Basin states.

- d) Power revenues will not be used to repay irrigation costs until after the costs of the power producing facilities are paid off. The use of power revenues to repay irrigation costs of Pick-Sloan is delayed for several years, and is not expected to begin until around the year 2024. All irrigation costs for each project must however be repaid within 50 years after repayment begins.

H) THE PICK-SLOAN DEBT

As of September 30, 1976, the federal investment in the Pick-Sloan system was \$2.4 Billion.¹⁵ Over \$1.9 Billion had been allocated to functions that are expected to repay those costs through power, irrigation, and municipal and industrial water revenues. The remainder was allocated to non-reimbursable functions. By the year 2078 the amount to be repaid by power users alone is estimated to reach \$5.8 Billion. The majority of that amount, or \$3.1 Billion, is for investment in irrigation facilities mostly unconstructed. The audit further reports that at the year 2078 there will be an unpaid balance of \$1.3 Billion for irrigation investment which is scheduled to be repaid through power revenues by the year 2152.

The major deficiency in the accounting procedures for the Pick-Sloan system is the inclusion of very large costs to be incurred over a long time into the future.¹⁶ The account includes costs of projects, primarily for irrigation, which are under construction and several years from completion and also for projects not yet authorized by Congress.¹⁵ This is known as the ultimate development concept of accounting. For example, the initial 190,000 acre stage of the Oahe Unit authorized and placed under construction in 1974 was expected to be completed during a 20-year period. The ultimate plan for Oahe is a total of 495,000 acres of irrigation, but 70% of this is not authorized. However costs allocated for both the initial phase and ultimate plan are projected into the Pick-Sloan account along with construction costs for the initial phase which are increasing at the rate of \$33 Million annually. (Figure 3) The uncertainty of these future costs especially in this period of inflation and generally rising costs makes the account unrealistic.¹⁷ The auditors state that the ultimate development is not defensible as a realistic or business like concept for future management of the Pick-Sloan account. Further, that under the existing accounting practices, the Departments of Interior and Energy along with Congress will never have adequate information on which to judge the actual operating results, repayment potential, or the feasibility of authorizing or reauthorizing additional development of Pick-Sloan.¹⁵

Whereas power revenues are the principal source of revenue to repay the majority of costs of irrigation facilities, the financial condition of the account is of acute interest to the power consumers of the Missouri River Basin states and the surrounding region served with hydroelectric energy produced by the Pick-Sloan system. The immediate problem that Congress is faced with is to judge the feasibility of funding millions of dollars annually for further construction of irrigation facilities based on accounting procedures which presently give no clear picture of recovering costs which are supposed to be returned to the federal government.

The auditors noted that present practices have allowed an increase in the amount of interest-free costs, thus reducing the amount of interest repaid. As a result, this practice had lowered current power revenue requirements and reduced the funds to the Treasury. The federal government is losing millions of dollars in interest because of the way these costs are allocated.¹⁸

Also the auditors found that current operation and maintenance expenses of joint use facilities including the Oahe Dam and reservoir are allocated to irrigation, although no irrigation facilities are in operation and apparently no revenues are being collected to pay these expenses. These expenses have been written off for a number of years as non-reimbursable and will not be repaid to the federal treasury. For the 15-month period ending September 30, 1976, this loss has amounted to \$1.9 Million. The amount lost over a period of years is suspected to be substantial.¹⁵ The auditors have stated that the ultimate development concept as employed for Pick-Sloan is not defensible as a realistic or business-like concept for future management of the system. They recommend that it be reanalyzed and that more realistic concepts reflecting the current use and costs of facilities be used. Especially it should be determined what projects will be built in which time frames.

1) REANALYSIS SHOULD OMIT OAHU COSTS

Any reanalysis of the Pick-Sloan program undertaken to establish more realistic and financially sound accounting practices should omit all unexpended costs attributable to the planned development of the 190,000 acre Oahe Unit. Furthermore, any current or additional studies to determine Pick-Sloan power rates, should reflect the deletion of all unexpended costs allocated to Oahe irrigation which were scheduled for repayment by power users.

Those costs for mainstem storage and irrigation pumping power which are suballocated without interest for repayment with Oahe Unit costs, should be retained as interest-free costs until the time that they could be repaid through excess power revenues.

Current and foreseeable attitudes by local people of the project area indicate that the project will not be built. Legislation to deauthorize the Oahe Unit currently pending before Congress seeks to waive all costs attributable to the authorized project and therefore will not be charged against the Pick-Sloan program.¹⁹

It is not the fault of the farmers of the project area, nor the people of South Dakota, nor the fault of the Pick-Sloan power customers that the Oahe Unit has failed, and may well turn out to be a mistake in the expenditure of several million dollars. Any restructuring of accounting procedures or adjustments of the financial status of the Pick-Sloan program should not be a burden to the people of South Dakota, or the project area, or the consumers of hydroelectric power. Eliminating the Oahe Unit is a current saving to the federal government of a half-billion dollars.

J) POWER RATE QUESTION

The Bureau of Reclamation has suballocated \$42 Million of the investment of Pick-Sloan mainstem reservoir storage and irrigation pumping power costs for repayment, interest free, with the development of the initial 190,000 acre Oahe Unit.¹³ A total of \$144 Million has likewise been suballocated interest free to the ultimate 495,000 acre Oahe plan.⁴

In 1973 when opposition to Oahe was first organized, the Bureau of Reclamation threatened that stopping the development of the project would cause power rates to be increased. The Bureau rationalized that the \$144 Million previously suballocated to the ultimate Oahe plan interest free would be shifted back to the interest-bearing costs of the account, and that power customers would have to start repayment of the interest immediately.²⁰ The Bureau did admit that the interest-free costs could be retained and applied to alternative irrigation development.²¹ They also admitted that if Oahe were eliminated there would need to be a complete reanalysis of the Pick-Sloan account to determine power rates, but they advised UFF that their preliminary studies showed power rates would be raised 0.6 mill per Kilowatt hour or about 12.5% over the existing rate²² if Oahe were stopped.

The Bureau's position on the threatened power rate increase was adopted by East River Electric Cooperative and the South Dakota Rural Electric Association and used by these groups to justify their continued support for Oahe Unit. The cooperatives generated and distributed figures showing higher electric costs that each cooperative and other Pick-Sloan power customers in South Dakota would be required to pay if the Oahe project were stopped.²³

Federal auditors who have recently examined the Pick-Sloan account stated that they were unable to verify the Bureau's claim that power rates would need to be raised if the Oahe Unit were eliminated.¹⁵

The Bureau's alleged rate increase is based on the assumption that the total \$144 Million now suballocated to the ultimate Oahe plan would be shifted from interest-free to the interest-bearing account, even though 70% of that development has not yet been authorized by Congress. Those who have strongly supported the Oahe project concede now that even the 190,000 acre initial stage will not be completed. The ultimate development seems totally out of the picture. It would be irrational for the federal government to impose a rate increase on the power consumers of the Missouri River Basin just because the local farmers of the project refused the Bureau's irrigation plan, and stopped the federal government from spending a half-billion dollars.

K) WHAT ARE POWER RATES IF OAHU IS BUILT?

A far more pertinent question for Pick-Sloan power customers to consider is the affect on rates if Oahe were continued. Current estimates show that \$427 Million allocated for irrigation will be repaid by power users. Inflation is adding \$33 Million to that amount each year (Figure 3). Under the most optimistic schedule that the project could be built in the next 15 years, it could be reasonably predicted that the final cost charged to power consumers would reach a Billion dollars. Since these costs are required to be repaid within a 50-year period, it could also logically predicted that a power rate

increase would be needed to pay for the Oahe irrigation facilities.

L) CHANGES IN ACCOUNTING WOULD REQUIRE CONGRESSIONAL APPROVAL

Changes in the allocation of costs and repayments of the Pick-Sloan program would require Congressional approval. According to the Solicitor for the Department of Interior, Congressional approval would be necessary in the matter of shifting interest-free costs suballocated to irrigation to interest-bearing power costs as was threatened by the Bureau in case the Oahe Unit were not developed.²⁴ Congress' authority over determining any reallocation of costs of the Pick-Sloan account is further provided for in the McGovern Amendment of the Department of Energy Organization Act of 1977 found at Sec. 302 (a) (3):

"...neither the transfer... (power marketing functions of Bureau of Reclamation) nor any changes in cost allocation or project evaluation standards shall be deemed to authorize the reallocation of joint costs of multipurpose facilities theretofore allocated unless and to the extent that such change is hereafter approved by Congress."

CHAPTER IV

SUMMARY This chapter examines the inefficiency of the Oahe Project in the use of land and water resources and public funds.

The Oahe Unit would directly alter the use of 300,000 acres of land. An additional large number of acres adjacent to project lands and along the James River would be characteristically altered to some degree as a result of project facilities, canal seepage, or return flows. The project would take 110,000 acres out of agriculture production in order to increase the production on 190,000 acres.

The lands selected for irrigation have poor irrigable characteristics, and require extensive artificial drainage facilities to prevent salination and waterlogging of productive soils. The Bureau of Reclamation revised their original drainage plans, against the advice of their own consultants, in favor of a less costly system which substantially raises the risk of ruining productive lands.

Approximately 48% of the 600,000 acres feet of water supplied to the project annually would be used for irrigation. Thirty nine per cent (39%) of the total supply will be wasted through canal seepage, evaporation and operational losses. The amount wasted each year could supply the annual domestic needs of a city of over 2 million persons, which is over three times the total population of the state of South Dakota.

The cost of \$2,423 per acre for irrigation development is subsidized 94% by power users. The federal investment will increase the value of the land which currently markets for between \$600-\$800 per

acre, but it is unrealistic to assume that the land will ever reach the value of the added federal investment. On the average, irrigation will only double the present production of land in the area.

Contrary to the intent of Congress when Oahe was authorized, there will be no new farms as a result of the irrigation project. The Bureau assumes that the irrigation water would be distributed to about 600 existing farm units with each getting water for 320 acres. This number of farms would benefit only if there is strict compliance with the acreage limitation law. The federal benefit would average about \$767,431 per farm.

The Oahe Irrigation program is a potential haven for speculation and windfall profiterring at the expense of the federal taxpayer. The amazing thing though is, a very large number of the potential beneficiaries have rejected the project.

The Bureau has consistently shown a benefit cost ratio showing benefits greater than costs. However in determining the b/c ratio, the Bureau estimated yields 57% to 116% higher than actual irrigated yields for the area, and estimated prices received by farmers at 94% of parity.

THE IN EFFICIENCY OF OAH AS A USE OF LAND, WATER, AND PUBLIC FUNDS

A) CHANGES IN LAND USE

The Oahe Irrigation Unit would require the use of a large amount of productive land and a large investment of public funds.

The amount of land altered by the project would include the 190,000 acres proposed for irrigation as well as the 110,000 acres consumed for project facilities.²⁵ An additional 100,000 - 150,000 acres along the canals and non-irrigated lands interspersed amount irrigated lands could be affected by irrigation and seepage water.²⁶ Also, a large number of acres of non-project lands petitioned out of the irrigation district and crossed by canals and drains could be affected by seepage. An unknown amount of riverside and lowlands would be affected by James River development. The vast majority of all lands affected are presently used for crop production and livestock grazing. The remainder are prairie wetlands, and woodlands along the James River. The majority of the acres taken for project facilities would be permanently altered by construction or flooded by reservoir water.

B) IRRIGATION SITE

The area proposed for irrigation lying along the James River in Spink and Brown Counties is the bed of an ancient glacial lake known as the Dakota

Lake Plain.²⁵ The deep soils of the lake plain were formed from silts deposited many thousands of years ago by the old lake which eventually drained in post-glacial times. The irrigation lands for the Oahe project are confined within the ten-foot silt line which parallels the perimeter of the old lake bed. The lands are very flat with poor natural drainage.

The area was homesteaded by farm families in the late 1800's and has been developed into highly productive dryland farming. Spink and Brown Counties are an important spring wheat and sunflower producing area in South Dakota. The average precipitation of the area is 19 inches annually.

C) LAKE PLAIN SOILS POOR FOR IRRIGATION

A thorough classification of the soils in Spink County shows that a majority of the 112 different soil types are less than a good prospect for irrigation.²⁷ A majority of the soil types are declared poor or unsuitable for irrigation, principally because of two characteristics: (1) slow soil permeability (slow movement of water through the soil), and (2) the amount of salts and alkali within and beneath the subsoils. A determination of the distribution of all soil types throughout the county shows that 14.2% of all land in county is good or excellent for irrigation, 22.3% is fair for irrigation, and 62% is poor or unsuitable for irrigation. Lands within the lake plain show a preponderance of soil poorly suited for irrigation.

D) DRAINAGE IS KEY TO IRRIGATION SUCCESS

The key for successful use of the lake plain soils for irrigation is drainage.²⁷ The chief engineer for the Bureau of Reclamation explains the importance of this factor:²⁸

"With good drainage, even the worst farmer cannot very well ruin good land. With poor drainage, the best farmer cannot be successful. Sooner or later salts or ground water, or both, will reach the surface zone of the soil, where plants grow. This may take 2 years or 20 or sometimes longer. A good definition for drainage is the 'removal of excess water and excess salt from agriculture lands'."

Diversion of large amounts of water into the lake plain area through the Oahe canals will cause the ground water to build up significantly. Water will be added to the soils from irrigation water not used by the crops along with seepage from the canals. Approximately 38% of the increased ground water will be from canal seepage.²⁹ The additional ground water will affect lands which are irrigated as well as non-irrigated lands adjacent to the canals.²⁶

Engineers both within and out of the Bureau of Reclamation who have studied the characteristics of the lake plain soils recognize the danger

of high ground water levels bringing up salts and alkali into the crop root zone and to the surface. It is unanimously agreed that productivity of the lands could be lowered.³⁰ To prevent waterlogging and salting up of the productive soils as a result of the irrigation project, the Bureau of Reclamation decided to plan an underground drainage system sufficiently capable of keeping the ground water level four feet below the surface. This is the depth which must be maintained to prevent waterlogging and salting up of these soils as a result of development of the irrigation project in the lake plain area.³¹

"Limited natural subsurface drainage in the Lake Plain indicates that tile drains will be required to maintain sustained irrigation. Since capillary action can move water upward through 48 inches (4 ft.) of soil, and by evaporation of the water an accumulation of salts is left on the surface, it is desirable to keep the water table four feet from ground surface . . . the tile drains must be spaced so as to protect the deep-rooted plants from being drowned by waterlogging of the soil." (Oahe Unit Report, 1960, U.S. Bureau of Reclamation)

E) BUREAU CHOOSES LESS EFFICIENT DRAINAGE PLAN

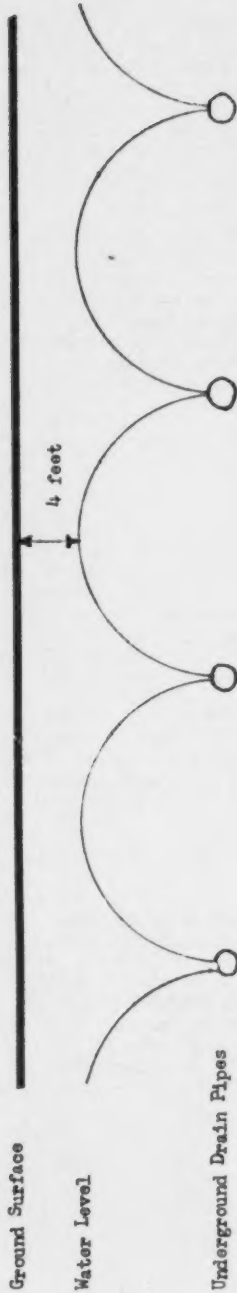
However, when the Bureau of Reclamation conducted their feasibility study and benefit/cost analysis, the drainage plan was changed to allow the water level to be maintained at only three feet below the surface instead of four feet,⁴ even though they recognized earlier that this would be a substantial risk of salting up and waterlogging the soil and be harmful to productivity. A drainage system to maintain a water table at three feet would be much cheaper than a system to keep the water level at four feet. The Bureau later admitted that this was an administrative decision not an engineering decision.³² (For illustration see figure 5)

In addition to the 190,000 acres in the Spink County and West Brown Irrigation Districts scheduled for irrigation, there are approximately 73,000 acres which will not be irrigated.¹⁰ However, these acres will be affected by a high ground water level as are the irrigated lands, but there will be no drainage protection whatsoever for these lands.³²

F) WATER USE EFFICIENCY

Water supply for the initial 190,000 acre project would be obtained primarily from the Missouri River, with diversion through the Oahe Pumping Plant. The total annual water required for the initial stage would average approximately 600,000 acre-feet.¹⁰ Approximately 74%, or 444,400 acre-feet of this amount would be Missouri River water; 104,800 acre-feet would be obtained from return flows carried by the James River in the Lake Plain area, and the remaining 50,700 acre-feet would be obtained from natural flows of the James River.¹⁰ Irrigation demands require 517,400 acre-feet annually. This amounts to an average of 2.7 acre-feet pumped to meet a requirement of

FIGURE 5
LAND PROFILE ILLUSTRATING UNDER GROUND DRAIN PIPES AND SOIL WATER LEVEL



Expert drainage engineers advised the Bureau to space drains at an average distance of 225 ft. - 330 ft. to keep water level at a minimum of 4 ft. below the ground surface midway between drains.



The Bureau chose a plan for drainage based on an average spacing of 620 ft. which would allow the ground water level to rise to 3 ft. below the ground surface.

1.6 acre-feet on farm delivery for each acre irrigated.⁴ Approximately 82,400 acre-feet of the total water supply of the initial stage is reserved for other purposes - including 36,000 acre-feet for water quality control in James River; 26,600 acre-feet for M&I water supply; and 19,800 acre-feet for fish and wildlife purposes.¹⁰

The water supply amounts and utilization are shown in Table 5 and Figure 6.

TABLE 5

WATER SUPPLY AND UTILIZATION OAHU UNIT		
	Amount (Acre Feet)	
Total Supply	599,900	100%
Irrigation	285,800	48%
M&I Water	26,000	4%
Water Quality Control	36,000	6%
Fish & Wildlife	19,800	3%
Waste (canal seepage, evaporation and operation loss)	231,700	39%

Approximately 39% of the total water supply is lost through canal seepage, operational wastes, and reservoir evaporation. The total amount lost annually through the system amounts to 231,700 acre-feet.

TOTAL AMOUNT LOST ANNUALLY THROUGH OAHU DIVERSION

231,700 Acre-feet	75,511,000,000 Gallons
-------------------	------------------------

(1 acre-foot = 325,900 gallons)

The current annual water use for each of the nine largest cities in eastern South Dakota are given in Table 6, also the maximum expected annual use by the year 2000.

FIGURE 6
OAHU UNIT WATER UTILIZATION

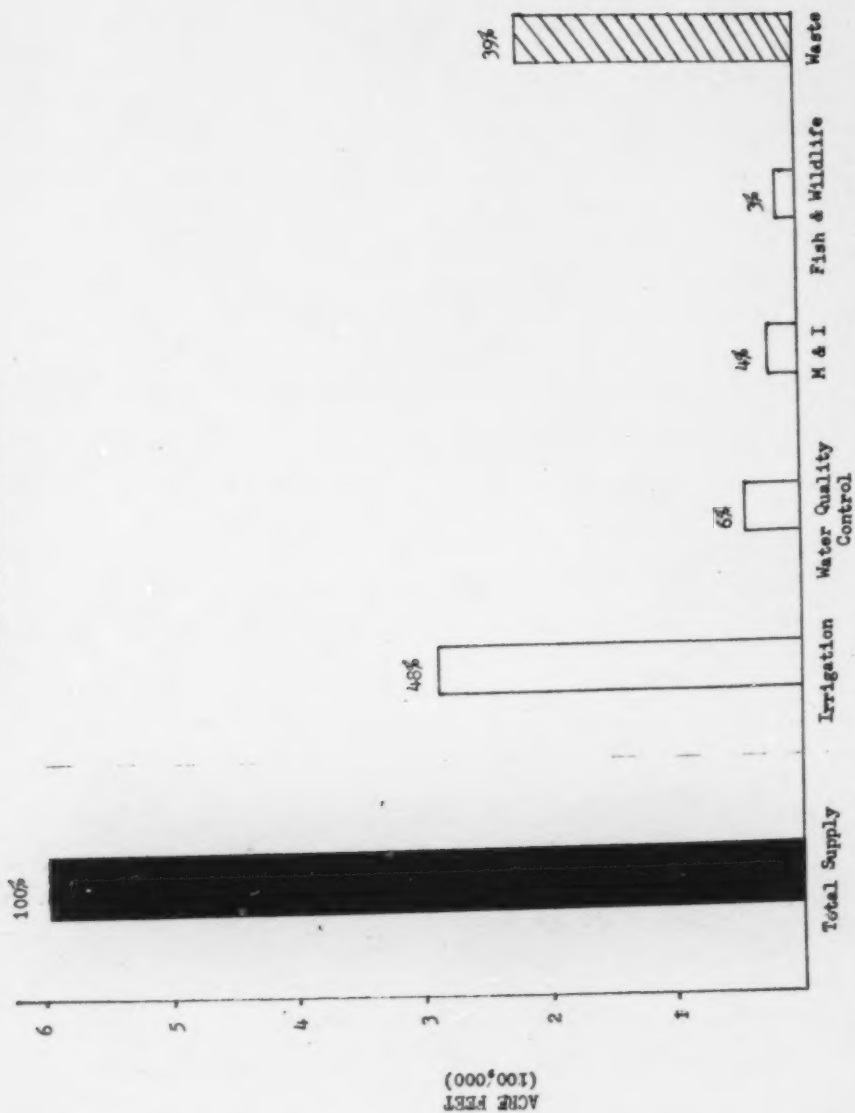


TABLE 6
YEARLY WATER USE AND NEEDS OF 9 LARGEST CITIES
EASTERN SOUTH DAKOTA*

	Current Use†	Estimated Needs† Year 2000
Sioux Falls	4,248	6,224
Aberdeen	1,200	2,260
Huron	689	1,090
Brookings	608	1,200
Mitchell	724	1,200
Watertown	768	1,170
Pierre	723	1,080
Yankton	589	1,020
Vermillion	370	820
TOTAL	9,919	16,064

† (million gallons)

*Eastern S.D. Water Supply Study, U.S. Corps of Engineers,
Task Report #3. September 11, 1979)

Planning engineers currently estimate municipal needs in South Dakota based on an average use of 100 gal per person per day. The total amount lost annually by Oahe diversion would supply the annual domestic needs for a city of 2,095,030. This is about three times the population of the state of South Dakota. The amount lost each year would serve the current use of the nine largest cities in Eastern South Dakota for over seven years. It could serve the maximum projected use of these cities by the year 2000 for more than four years. Only two, Huron and Aberdeen, are even within the vicinity of Oahe Unit facilities with a chance of being served municipal water from the Oahe Project. The amount lost each year could serve these two cities for 39 years at the current rate of usage.

The WEB domestic water project is organized and planned to serve 2,913 rural users with a population of 12,387 plus the livestock needs of over _____ farms plus 51 towns with a combined population of 17,413 people. The annual

use for the WEB system is presently estimated at 1,427 million gallons. The amount lost through the Oahe diversion could supply 53 WEB projects.

Huron is the main municipal user of James River water downstream from the irrigated lands of the Oahe project. The Bureau of Reclamation proposes to maintain drinking water standards in the James River through dilution with Missouri River water transported through the Oahe canals. The Bureau is authorized to pump 36,000 acre-feet annually for water quality control. The amount of Missouri River water pumped just to dilute the James River for water quality control is 10,000 acre-feet more than the total M&I water supply of the project. The dilution water alone would serve Huron at its present rate of usage for 17 years.

More recent detailed water quality studies of the James River with irrigation return flows shows a greater need for water quality control than the Bureau had earlier estimated.²⁹ In order to maintain minimum water quality standards for total salts in the James River will require an annual diversion of 62,000 acre-feet of Missouri river water.³⁴

G) FINANCIAL BENEFITS FOR IRRIGATORS

The Bureau promotes the Oahe Unit as benefiting 600 farms each with 320 acres of irrigation. The federal investment per farm would amount to \$767,431.³ Since no interest is charged for repayment on costs for construction of irrigation facilities, each farm enjoys an additional interest subsidy. However, the federal government does not borrow money interest free. Completion of the project even at 1977 cost-estimate would cost the federal taxpayer 7-10% interest on \$460,457,000 annually. This would amount to a subsidy of billions of dollars by the time the project is scheduled to be paid off 50 years after construction.

Land in the area proposed for irrigation is now worth about \$600-\$800 an acre. The federal investment of \$2,423/acre which is over three times the dryland value has a great potential to inflate land prices. However, since irrigation can on the average only double production in this area over dryland farming, it is highly doubtful that the land will ever reach the value of the federal investment.

Returns from irrigation fall far short of paying for the Oahe investment. The Bureau has determined irrigators in the project can afford to repay only 6%, or \$176/acre, of the total capital investment. Under terms of their contract, irrigators are scheduled to repay their portion of the costs at the rate of \$2.62/acre per year. If the irrigators had to repay the entire cost of \$2,423/acre, it would take them 925 years to repay at the rate they can afford.

H) LOCAL BENEFITS

The intent of the federal reclamation program is to achieve the social objectives of building and maintaining rural communities of farm families.

Two key provisions of the 1902 Federal Reclamation Act provide for accomplishing those objectives:

- a) Residency: Any person whose land is benefited from a federal project must reside on the land.
- b) Acreage Limitation: Individual landowners were limited to receive water for only 160 acres. Husband and wife owners are limited to water for 320 acres.

Those provisions are to apply in the use of federally subsidized irrigation water. The law is to prevent a few from monopolizing the large benefits of the public subsidy, and to assure the taxpayers that the benefits would be distributed to the largest number possible. The residency and acreage limitation provisions have been upheld a number of times over the years through legal and judicial review. The most recent opinion of the Interior Department has held that residency is a condition which must be met to receive subsidized reclamation irrigation water.³⁶ On the other hand, the enforcement of the law by the Bureau of Reclamation has been disastrous in many areas of the West served by federal irrigation development.

Congress authorized the Oahe Unit on the intention that it would create 500 more farms in the project area.⁴ However, it is now anticipated that the plans for additional farms will not be accomplished,²⁵ but rather the project will serve approximately 600 existing farm units. Even if the acreage limitation were strictly enforced in limiting water to 320 acres per farm unit, the Oahe Unit would benefit only about 1% of South Dakota's farmers.

Special interest groups are lobbying Congress to revise the law limiting the use of water from federal reclamation projects. One proposal which has received some support from the Congress would revise the acreage limitation to 1280 acres per farm.³⁹ Under this revision the benefits of Oahe irrigation could legally be distributed to as few as 150 farms. The direct benefit to each farm would amount to \$3,069,724.

The Oahe irrigation program is a haven for speculation and windfall profiteering at the expense of the federal taxpayer. The benefits are planned for a rather small and easily identifiable group, who if they desired, could become a strong special interest force to promote their interests. However, the amazing thing is that a very large number of these direct beneficiaries are opposed to the project, and have called for the Congress to deauthorize the plan.

I) BENEFIT/COST ANALYSIS

One of the critical measures Congress uses to determine whether a water project is a wise investment is the benefit-cost analysis. This analysis shows a ratio between the benefits anticipated for each dollar in cost. If the benefits are greater than the costs, the ratio is greater than one to one, and the project is looked upon favorably.

The Bureau of Reclamation has determined the b/c ratio for Oahe on assumptions which tend to give it a favorable rating. Economists outside the Bureau have pointed out that using more realistic assumptions and measures of costs and benefits, there would be no net benefits, but in fact the costs would be greater than returns.⁴⁰ Without going into the intricacies of the Bureau's benefit-cost analysis, it will be pointed out in the next few paragraphs where certain biases have been used to show a favorable b/c ratio. The Bureau has overestimated both the value of farm products, and crop yields under irrigation.

In calculating the value of farm production under irrigation, the Bureau originally assumed that prices received for products raised on the project would be at a level which would reflect 94% of parity.⁴ Further, they assumed that this would be the average price level for farm products during the lifetime of the project. In recent years, prices for most farm commodities have rarely reached 94% of parity even for short periods of time.

In 1975 the Bureau updated the b/c analysis.⁴¹ Although irrigation benefits were determined on a lower and much more realistic price level, the Bureau nevertheless substantially raised the estimates of crop yields under irrigation. Prior to 1975 the Bureau estimated irrigated corn yields to average 82 bushels per acre, but raised this estimate to 152 bushels per acre in their updated analysis. Actual yields obtained for irrigated corn by farmers in Spink and Brown counties, the area proposed for the project, over a five-year period prior to 1975, showed an average yield of 84 bushels per acre (Table 7).

TABLE 7

YIELDS FOR IRRIGATED CORN IN SPINK & BROWN COUNTIES ⁴²			
Year	TOTAL BUSHELS	TOTAL ACRES	AVERAGE YIELD
1969	532,700	5,640	94 bu/acre
1970	486,100	6,550	74 bu/acre
1971	578,800	6,650	87 bu/acre
1972		DATA NOT AVAILABLE	
1973	526,900	5,500	96 bu/acre
1974	346,000	5,000	69 bu/acre
AVERAGE YIELD FOR 5 YEARS - - - - -			84 bu/acre
BUREAU'S ESTIMATE YIELD FOR IRRIGATED CORN - - - - -			152 bu/acre

*Annual Reports, S.D. Crop & Livestock Reporting Service, S.D. Department of Agriculture and U.S. Department of Agriculture)

The Bureau's estimate for irrigated corn yields was 80% higher than actual yields. Other crop yields were estimated from 57% to 116% higher than actual yields obtained by irrigation farmers in South Dakota.⁴³

Another important factor in determining the b/c ratio is the level of discount rate used in the analysis. A long standing policy of the federal government is to discount the benefits of water resource projects because the benefits of these projects like Oahe are not realized until some time in the future. The level of the discount rate used in the benefit cost analysis can influence the ratio that is determined. A low discount rate favors a high b/c ratio.

The Bureau uses a discount rate of 3% in determining the b/c ratio for the Oahe Unit.¹⁰ Economists outside of the Bureau agree that the discount rate used by the Bureau is unrealistically low,⁴⁰ and has tended to bias the analysis to show a favorable b/c ratio. The current discount rate set by the U.S. Water Resources Council for evaluating water projects is 7 1/8%.⁴⁴

CHAPTER V

BUREAU OF RECLAMATION - AN AGENCY OUT OF CONTROL

A) ROLE OF THE BUREAU

The Bureau of Reclamation has a unique position in water resources planning and decisions. The agency not only provides the engineering plan and determines the feasibility of a project, it also obtains authority to construct and plan and implement its operation. The Bureau does the planning as well as the building. The continuation of a project is therefore serving to the Bureau. The Bureau can and often does become a public advocate to push forward with a project. Under such circumstances the Bureau loses its objectivity and allows itself to become involved in the political process to influence public opinion and decision makers. The Bureau explains the dangers of political and special interest pressures to build irrigation projects which are not very good ones:²⁸

"Such pressures may come from Chambers of Commerce, influential individuals, politicians, or almost any entity or individual. On such shady projects, costs estimates must be kept down if feasibility is to be demonstrated. While these boosters may be sincere, they will go almost any length to make their pet project look good and have Congress appropriate money to build it. They are not trying to have us build a marginal project; they just don't understand the possible consequences. Such local pressures can be tremendous, and sometimes people have been blind to potential drainage problems that grew to be very serious after the project was built and irrigation started."

Through its local, regional and national structure, the Bureau can become a controlling force and influence of the decision making at all levels. The elected public officials are left to discern the feasibility of a project based on the information and judgment of the technical people. Too often elected officials fail to recognize the inherent bias of the Bureau, and lapse into a position of only giving rubber-stamp approval to whatever the Bureau decides.

Sometimes decisions in the Bureau are made at an administrative level not only against technical advice but without public review.

The Bureau encourages prolonged periods of planning of a project extending over several years. According to the Bureau, seeking smaller amounts of funding each year for a study, avoids the close scrutiny which would result if all funds of a study were asked for through a single appropriation.⁴⁵

B) QUALITY OF INFORMATION

The Bureau of Reclamation can control the information on a project. It can decide what information is given out, when it is given out and to whom it is given.

During the many years of technical study of planning for irrigation of the Lake Plain soils, the Bureau gave much consideration to a drainage system (see Chapter IV). All technical evidence showed that an adequate underground drainage system was necessary to prevent ruining of soils which are not naturally suitable for irrigation. Decisions within the Bureau were made to proceed with a drainage plan which the engineers agreed would protect the soils and greatly reduce the risk of salting up and waterlogging of productive land. The essential factor was that the ground water must be kept four feet below the ground surface. Any shallower depth of ground water would adversely affect the land.

However, to show financial feasibility, the Bureau arbitrarily chose a less adequate drainage plan which would allow the ground water to rise up to three feet below the surface, but which would be much cheaper and keep cost estimates down. There is no evidence that the farmers or any public elected officials were informed of this decision, nor were they advised of the risk to the land and their property. Later, after project construction had begun, the Bureau expressed their arrogance by defending this arbitrary decision by stating that their drainage would be satisfactory and work if the farmers would learn how to irrigate, and follow the Bureau's instructions.³²

The investigation for development of Blunt Reservoir across Medicine Knoll Creek, a major facility of the Oahe Unit, began in the 1940's. Citizens of the community of Blunt which lies immediately downstream from the proposed reservoir site, have concerns about water seepage from the reservoir and the impacts on ground water levels of the area. Before project construction was scheduled to begin, the City of Blunt on March 10, 1976, made a formal request to the Bureau for information regarding any studies made of the impacts of the reservoir on the community.⁴⁶ The Bureau responded immediately stating that no study had been made, but acknowledged the communities concerns of the effects of the reservoir on ground water was understandable.⁴⁷ Approximately a year later on March 7, 1977, City officials of Blunt met with the Bureau of Reclamation and asked for an explanation of the effects of the reservoir on water levels. The Bureau assured them that if any lasting problems developed that drainage wells would be installed and dikes could be built to protect

the town.⁴⁸ A third time, March, 1978, the City officials made another formal request for studies and information which would show the impacts of the reservoir on the community. The Bureau again responded immediately without giving any additional information, and further stated that since the project was halted no further studies would be conducted.⁴⁹ Invoking the Freedom of Information Act and with the assistance of a member of the South Dakota Congressional delegation, the Mayor of Blunt on May 24, 1978, formally requested all information and studies which the Bureau had done concerning the development of the Blunt Reservoir, specifically requesting information of any investigations of seepage, and affects on ground water levels downstream. Among the information supplied was a report from an investigation done in October 1976, showing that the Bureau had investigated the problem of seepage from the reservoir, and considered the impacts on the ground water levels in the Blunt area. In this information which the Bureau had concealed for two years indicated that the development of the dam could affect the water supply for the town of Blunt. It further showed that the Bureau was unable to determine if the ground water would be sufficiently kept at its natural level or if the ground water level would be raised to produce waterlogging downstream.

C) ELECTIONEERING ACTIVITIES

A tremendous amount of public attention from throughout the state was focused on the election of Oahe Board members prior to the election in 1978. Candidates both favoring and opposing the Oahe Irrigation Unit were running for office and were actively discussing the issues before the voters. During this campaign the Bureau of Reclamation prepared and made available to newspapers and city governments extensive briefing material explaining their position on many of the controversial issues being debated by Oahe Board candidates.⁵¹ The Bureau also outlined standard responses to certain major questions being considered in the campaigns.

About ten days prior to election day, the Bureau did a mailing to a large number of individuals within the Oahe Sub-District.⁵² Attached to the mailing was a letter which outlined the positions the Secretary of Interior and Bureau of Reclamation would hold depending on the outcome of the Oahe Board elections, i.e. if candidates favoring Oahe should win or if candidates opposing the project should win. The mailing was entirely unsolicited by those who received it, and neither was the information in response to any recent questions posed to the Bureau by these persons.

CHAPTER VI

SUMMARY This chapter examines the controversy surrounding the Oahe issue.

During the early organizing of support for Oahe in the 1960's, local opposition was gerrymandered out of the project by allowing landowners opposed to the project to petition out of the irrigation districts with a promise that anyone out of the district would not be affected by the project. However, the final plan adopted by the Bureau after the petitioning out of approximately 500 landowners, necessitated the construction of canals and drains across property gerrymandered out of the districts. Any landowner taken out of the district at that time lost the right to vote on any questions re future decisions on the project.

During early project development the heavy hand of the Bureau was evident in the acquisition of land. A very high portion (33%) of the parcels acquired for the right-of-way for the first 22 miles of the Pierre Canal were taken by condemnation. When these condemnation cases were settled nearly four years later in federal court, the court awarded the landowners twice or more the amount the Bureau had offered.

Oahe is traditionally supported by the business community and construction industry. The project is opposed by local farmers and conservationists. Strong opposition began to become organized in 1973. Both proponents and opponents have vigorously advocated their positions in the political process during several years of controversy.

Until 1974 the Board of Directors of the Oahe Conservancy Sub-District gave unanimous endorsement to the project. Through the election of new directors to the Board in 1974 and 1976, the official position of the Sub-District was reversed from supporting the Oahe Unit to opposing the project. Opponents maintained a majority position on the Board through re-election in 1978 and 1980.

Since the election of 1976 when opponents to Oahe gained a majority on the Sub-District Board, there have been many attempts to take away or circumvent that authority of the local Board. All legislative, judicial, and political actions to take away local control and subvert the elective process exercised by the voters of the Sub-District have failed.

THE CONTROVERSY

"When the people make the system work, those with money and power work to change the system."

A) OPPONENTS GERRYMANDERED OUT

To get the Oahe project authorized it was necessary to organize irrigation districts among the landowners of the proposed irrigation area to serve as a local entity with which the Bureau could contract for water service. Because the irrigability of the Lake Plain soils was questionable (See Chapter IV) and there was concern of the affects of irrigation ditches and drainage problems on the land, many Spink and Brown County farmers questioned at an early time whether to include their lands in the project. In response to these concerns the Bureau of Reclamation promised a study of replacing the plan of open ditch delivery with pipeline delivery system.

Local project promoters pressed for the formation of an irrigation district. Farmers who had concerns were told that if they did not want their lands in the project, that they had the option of petitioning to have their lands excluded from the proposed district, and were promised that the project would not affect them because the Bureau would propose to install a pipeline instead of using open ditches.

South Dakota law provided that any person owning 10 or more acres in the proposed irrigation district was eligible to vote in any election held by the district, including the question of forming the district. Two irrigation districts to be served water from the Oahe project were proposed for the Lake Plain area - the Spink County Irrigation District and the West Brown Irrigation District.

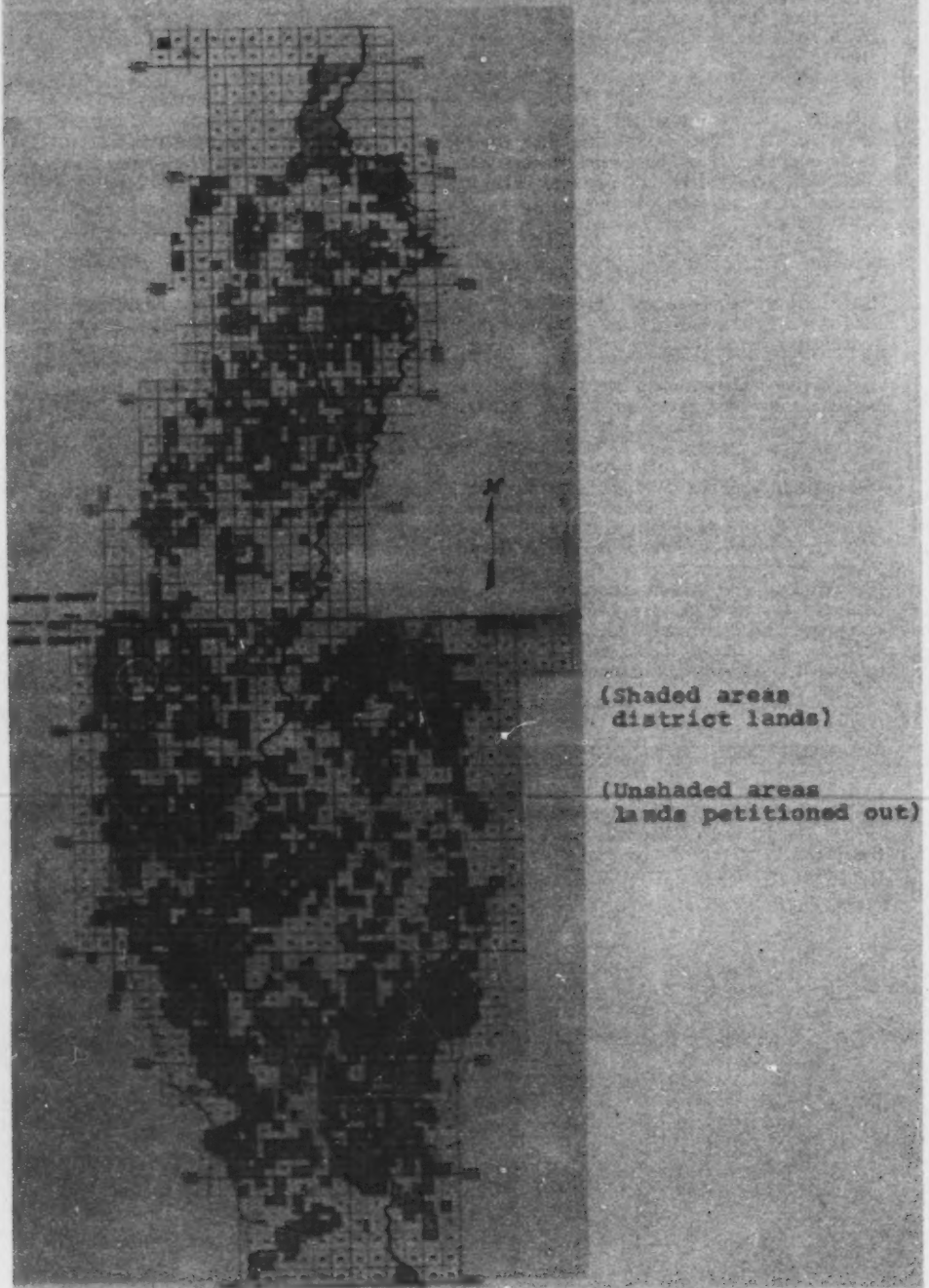
Because they did not want to stand in the way of forming a district, and because they were given assurances that the project would not affect their lands, 525 landowners from the two counties petitioned to have their lands removed from the project. Subsequently these landowners were not eligible to vote. A total of 1276 landowners remained in the two districts. An election was held in 1965 on the question of forming the district. A total of 669 landowners voted with about 83% voting favorably. Because a considerable amount of land was petitioned out of the project, the irrigation districts thus formed were very gerrymandered (Figure 7).

In 1971 the Bureau announced the results of their study of a pipeline delivery system¹⁰ showing that it was not feasible and therefore would be dropped. The open canal delivery system authorized by Congress was adopted which would require that lands petitioned out of the district would be crossed by open canals and drains requiring a right-of-way taken either by purchase or eminent domain.

B) BUREAU WIELDS FEDERAL EMINENT DOMAIN POWER

First lands for the right-of-way for the Pierre Canal were acquired in 1975. The Bureau of Reclamation acquired 31 parcels by title or easement for the first 22 miles of the Pierre canal. Eleven of the parcels were taken under the power of federal eminent domain.¹¹

FIGURE 3
MAP OF IRRIGATION DISTRICTS



Prior to the acquisition of land for the Pierre Canal, a Congressional investigation of the Bureau's policies in acquiring land for the Garrison Diversion Project in North Dakota, showed that the Bureau was not following procedures established in the Uniform Relocation & Real Property Acquisition Policies Act of 1970. As a result of this investigation, Congress re-emphasized that the law requires the Bureau to make every effort to acquire property by negotiation.⁷⁸ Taking property by condemnation should be a last resort. However, one-third of the parcels taken for the Pierre Canal was through condemnation.

Once property is taken by condemnation the landowner must fight for a fair settlement through the legal process. Final settlements for several parcels condemned for Pierre Canal right-of-way in 1975 and 1976 were reached in 1979. In most cases the landowners received twice or more the amount offered by the Bureau before the land was taken by condemnation (Table 8).

TABLE 8
FINAL SETTLEMENT ON 6 LAND PARCELS
CONDEMNED FOR PIERRE CANAL

Parcel	Bureau's Offer Before Condemnation	Amount Awarded Landowner After Condemnation
PC2	\$28,250	\$36,000
PC3	43,720	99,700
PC11	15,930	42,000
PC12	18,575	42,500
PC14	37,590	73,000
PC30	34,500	89,000
Total	\$178,565	\$382,200

The total amount offered by the Bureau for six parcels taken through condemnation was \$178,565. However, the total amount of \$382,200 received by the six property owners was more than double what the Bureau had offered. The Bureau's cost for the six parcels was \$203,635 more than expected.

C) ORGANIZATION OF PROPONENTS

The promotion of the Oahe project through the political and legislative process was for many years led by the S.D. Water Development Association. This organization was dominated by business and contracting interests from across the state along with personell of the Bureau of Reclamation and other water development agencies. When opposition to the project began to be voiced among local people, project promoters, with the financial backing of industrial interests organized the "Friends of Oahe" in 1974. In 1977 the S.D. Water

Development Association disbanded and reformed under the banner of the "S.D. Water Congress". The policies of the Water Congress is directed by a 24 member board of directors. Half of the board seats are held by persons selected from among the members; the other half of the board seats are purchased by special interests at \$1000 apiece. Purchased positions on the Water Congress board have been held by - Associated General Contractors (2); S.D. Irrigators Association (2); Greater S.D. Chamber of Commerce (2); S.D. Municipal League (2); S.D. Rural Electric Association (2); S.D. Farm Union; and S.D. Rural Water Systems Association.

Organizers of the Water Congress and the financial supporters of "Friends of Oahe" teamed up in 1978 as the "SAVE OUR WATER POLITICAL ACTION COMMITTEE" with objectives to elect pro-Oahe candidates to the Oahe Sub-District Board.^{53,54} A large majority of the financial resources of SOWPAC was from business, construction, and financial interests with a great deal from outside the local Oahe Sub-District area.⁵⁵

In addition to the groups specifically organized to promote Oahe, several other groups holding a strong pro-Oahe position have been listed by the Bureau of Reclamation including Chambers of Commerce of several towns, city governments, county irrigator groups, contractors, and several newspapers.⁵⁶ The position of the proponent groups has been to favor continued development of the Oahe project.

D) ORGANIZATION OF OPPONENTS

United Family Farmers was founded in 1973 by local farmers of the Oahe project area to raise opposition to the project. UFF was joined by conservation and environmental groups. In 1974, UFF filed suit against the Bureau of Reclamation to halt the initial project construction and land acquisition. This action was brought under the National Environmental Policy Act challenging the adequacy of the impact statement. The action temporarily halted land acquisition and delayed the awarding of further construction contracts. The case was ultimately decided two years later in favor of the government.

Opponents asked the S.D. Legislature to call for a moratorium on the project in 1975. The Legislature defeated the moratorium proposal, but the information and debate left the legislature divided in its support for the project. In 1976 UFF asked that the Legislature provide for a referendum vote among the people of the Oahe Sub-District. This proposal was approved by the State House of Representatives, but was defeated by the State Senate.

United Family Farmers continued to conduct an indepth grassroots educational and organizational effort among people of the project area. Financial reports which have been frequently released and filed for public inspection show that over 90% of the financial support of UFF is from local farm people.

E) PUBLIC INFORMATION

For many years information on the project including details of location and size of features, results of water quality and drainage studies, and explanations of the obligations by farmers to the project was overwhelmingly confined to brief technical reports prepared by the Bureau of Reclamation. This information was circulated primarily among agency people. The information was not readily available to local people or the general public.

The passage of the National Environmental Policy Act of 1969, demanded a broader disclosure of information. Through the impact statement process, many facts and details of the plan were for the first time given wide public exposure. The facts revealed broadened the discussion over the project and its many economic, social and environmental implications. People of the project area secured the information and studied it.

F) QAHE SUB-DISTRICT BOARD

The Oahe Sub-District Board since its organization in 1960 and through 1974 gave unanimous support to the development of the Oahe Unit. In the election of sub-district directors in 1974, four candidates not in support of the project were elected over incumbent directors. In 1976 five more opposition candidates were elected over five pro-Oahe incumbent directors. There were more than a majority of the Board members opposing the project. After a year of public hearings and review of alternatives and discussions with the Bureau of Reclamation and Department of Interior, the Board adopted in 1977 a position supporting deauthorization of the Oahe Unit.

In 1978 project opponents were re-elected.

G) PRESSURE ON QAHE BOARD

Following the sub-district board elections in 1976 which resulted in a change of position by the sub-district from support for the Oahe project to opposition to the project, a great deal of pressure was brought to bear on the Oahe Board from throughout the state.

Some political leaders in the state have called for stripping the Board of its statutory authority and have sought to go around the Oahe Board as the representatives of the interests of local people in the Oahe development.^{57,58,59} Those holding this position advise that the authority and control over Oahe be turned over to the state and the project would be administered by the S.D. Department of Water & Natural Resources. This agency is directed by an appointed Board whose members serve at the pleasure of the Governor.

Action by the S.D. Legislature in 1977 created the Oahe Task Force made up of four members of the Legislature, two members of the sub-district board, and the Governor. The Task Force reviewed the controversy, and in their first annual report to the Legislature recommended a hold position on further development of the project.⁶⁰

Approximately three months after the new Oahe Board took office following the 1976 elections, project proponents brought suit against the rural directors on the Board challenging the constitutionality of their election.⁶¹ The election of sub-district board members is not apportioned according to the one-person-one-vote principle. Rather the representation is based on rural and urban interests. Nine members of the Board are elected by rural voters, and two directors are elected by municipal voters although the number of municipal residents is much larger than rural residents. The legal action brought asked that the election of directors be apportioned to the one-person-one-vote principle which if strictly applied would allow municipal interests to control the Oahe Board. The plaintiffs were granted temporary relief through an order from the State Circuit Court which called for a weighted voting system to be applied to all future decisions of the Board.⁶² This order was overturned on appeal by the S.D. Supreme Court and the case was sent back to the lower court for trial.⁶³ At trial, the jury found that the disproportional representation of the Oahe Board which favored rural interests was justified but that it was not precise. The Circuit Court subsequently ruled the present Board unconstitutional and ordered that it be reapportioned.⁶⁴ However, on appeal the State Supreme Court did not agree and again overturned the lower court's ruling.⁶⁵ The Court action has established that the Oahe Sub-District is a special purpose district and not subject to the one-person-one-vote principle.⁶⁶

Numerous proposals have come before the S.D. Legislature since 1976 designed to remove or circumvent the authority of the Oahe Sub-District Board, but none have been given serious consideration. Local control over planning and decision making has become a major issue in the Oahe Controversy.

Early during the 1978 session of the state legislature, the Governor's office received a memorandum through its electronic communications instruments which later turned into a mystery.⁶⁷ The memo had all official appearances of being sent from THE WHITE HOUSE, Washington, D.C., and authorized by a "White House Water Study Group". The memo also bore the initials "JC". The memo was directed towards the S.D. Legislature and its relationship to the Oahe issue and was given wide publicity by the news media. The memo specifically addressed the legal structure of the sub-district and the contractual relationships between the Oahe Sub-District and the federal government. The memo was meant to signal the Legislature that the Federal Administration would recognize any action the state might take in making changes in authority over Oahe. The memo stated:⁶⁸

"If the State Legislature adjusts the legal standing of the Oahe Board in relation to the Oahe Master Contract; the Administration will deal with whatever legal entity is established by the Legislature as the successor in interest to the Oahe Board on the Contract for the State of South Dakota . . . We regard action taken - or not taken - by the State Legislature to be a key factor in the future of the Oahe Irrigation Unit".

The day the memo was received in the Governor's office, a secret mission by the legislative members of the Oahe Task Force accompanied by the Governor's representative to Washington, D.C. to visit with administrative officials was aborted enroute by bad weather.⁶⁹ A rescheduled meeting was reconvened

three days later in Washington, D.C. At this meeting it was revealed that the memo from THE WHITE HOUSE which the Governor had received was a fake. All administrative officials and members of the White House staff who were questioned denied composing or sending the memo. At the request of the Assistant U.S. Attorney General, the matter of the phoney memo was put under FBI investigation to determine possible criminal violations.⁷⁰

H) ELECTION LAW VIOLATIONS

A very close election among candidates for the director position to represent Division IV of the West Brown Irrigation District in 1976 was decided in favor of the pro-Oahe incumbent candidate by three votes. The opposition candidate immediately filed suit in circuit court charging illegal handling of absentee ballots by the incumbent candidate. The court found the incumbent candidate guilty of 12 violations of election laws⁷² and ordered a new election be held. The S.D. Supreme Court upheld the ruling of the Circuit Court. In a new election held among the voters of Division IV, the opposition candidate won over the pro-Oahe candidate.⁷²

I) Oahe & THE NEWS MEDIA

The Oahe issue was listed among the top ten news stories of South Dakota during the years 1974-1979. Oahe was voted the top news story in 1977. Reporters from throughout the state covered events and issues during this time.

One reporter of a leading television station resigned under pressure from the management regarding his reporting on Oahe.⁷³ Other reporters have also verified that pressure had been exerted from editors and publishers in reporting the issues.⁷⁴

The three daily newspapers of the project area, HURON DAILY PLAINSMAN, ABERDEEN AMERICAN NEWS, and DAILY CAPITOL JOURNAL have steadfastly advocated a proponent position on the Oahe project. The HURON DAILY PLAINSMAN has particularly shown bias in covering and reporting news favoring proponents' positions on the issues. Also, the DAILY PLAINSMAN has applied significant pressure on members of the S.D. Congressional delegation to support a pro-Oahe position⁷⁵ and the publisher has become personally involved in formulating pro-Oahe strategy among the staff of the Congressional delegation and State Government.

The HURON DAILY PLAINSMAN has refused to sell the United Family Farmers, the leading organization opposed to Oahe, advertising space to allow the organization to defend its position against the editorial attacks written and published by the newspaper.⁷⁹

BIBLIOGRAPHY

1. P.L. 90-453, 82 stat. 624, August 3, 1968
2. P.L. 92-577, 86 stat. 1265, October 27, 1972
3. U.S. Department of the Interior Water Projects Review, Oahe Unit, South Dakota, April 1977
4. House Document No. 163, 90th Congress, 1st Session, Oahe Unit Missouri River Basin Project, South Dakota, August 31, 1967
5. Memorandum to Commissioner of Reclamation from Assistant Solicitor, U.S. Department of the Interior, December 13, 1977
6. Letter to Senator George McGovern from Deputy Solicitor, U.S. Department of the Interior, February 5, 1979
7. Letter to George Piper from Assistant Commissioner, Bureau of Reclamation, U.S. Department of Interior, May 3, 1979
8. Oahe Meeting, Senator George McGovern (Sponsor), Sioux Falls, South Dakota, November 12, 1977
9. Letter to Ted Albright from Regional Director, Bureau of Reclamation, U.S. Department of Interior, June 7, 1978
10. Definite Plan Report on Oahe Unit, Initial stage - 190,000 Acres, Bureau of Reclamation, Rev., August 1971
11. U.S. Department of Interior, Bureau of Reclamation, Master Contract Between The United States and The Oahe Conservancy Sub-District. Contract No. 14-06-600-10,079. January 8, 1969
12. Memorandum to Commissioner of Reclamation From Associate Solicitor, "Resolution to Terminate Spink County Irrigation District Contracts - Oahe Unit, Pick-Sloan Missouri Basin Program", November 30, 1979
13. Project Data Sheet, Oahe Unit, Bureau of Reclamation, January 1, 1979
14. Letter to Roger Schuller From Area Manager, Western Area Power Administration, Department of Energy, Billings Area Office, September 11, 1979
15. Review of Repayment Status of Pick-Sloan Missouri Basin Program and Individually Authorized Projects, Bureau of Reclamation, U.S. Department of the Interior, Office of Audit and Investigation
16. Letter to Lawrence D. McMerty from Acting Secretary, U.S. Department of the Interior, August 28, 1979

17. Letter to Fred G. Simonton from Acting Secretary, U.S. Department of the Interior, August 28, 1979
18. Audit Reveals Pick-Sloan Poorly Run, Loss of Funds, Jim Aucoin, Lincoln Journal and Star, May 13, 1979
19. H.R. 5807 "A Bill To Deauthorize The Oahe Unit", 96th Congress, 1st Session
20. Letter to Senator James Abourezk from Acting Commissioner, Bureau of Reclamation, U.S. Department of the Interior, August 29, 1975
21. Letter to Virgil Gilbert from Commissioner, Bureau of Reclamation, U.S. Department of the Interior, April 26, 1974
22. Letter to George Piper from Acting Commissioner Bureau of Reclamation, U.S. Department of the Interior, April 23, 1974
23. Statement by South Dakota Rural Electric Association, A conference on the relationship between Missouri River Basin Power Revenues and South Dakota Water Development, Sponsored by South Dakota Oahe Unit Task Force, Pierre, S.D. August 30, 1978
24. Memorandum to Commissioner of Reclamation from Assistant Solicitor, U.S. Department of the Interior, "Suballocation of Power Investment Pick-Sloan Missouri Basin Program", June 13, 1973
25. Final Environmental Statement, Initial Stage Oahe Unit, Bureau of Reclamation, December 17, 1973
26. Letter to Commissioner of Reclamation from Regional Administrator, U.S. Environmental Protection Agency, "Comments of The Environmental Protection Agency On Oahe Unit Water Quality Modeling Study," February 19, 1976
27. "Soil Survey of Spink County, South Dakota", Bulletin 439, Agriculture Experiment Station, South Dakota State College, Soil Conservation Service, U.S. Department of Agriculture, June, 1954
28. C.R. Maierhofer, Chief of Drainage, U.S. Bureau of Reclamation, "Drainage of Reclamation Lands", Annual Meeting Upper Missouri Water Users Association, January 24, 1963
29. Summary Report Water Quality and Return Flow Study, Initial Stage Oahe Unit, Missouri - Oahe Projects Office, U.S. Bureau of Reclamation, September 1975
30. "Report of Drainability of Lands in the Oahe Unit of the Missouri River Basin Project", Consulting Board, Oahe Unit, Bureau of Reclamation for Regional Director, December 31, 1954

31. Report on Oahe Unit, U.S. Department of Interior, Bureau of Reclamation, Region 6, June 1960
32. Testimony of Ray Winger, Chief of Drainage, Bureau of Reclamation, UFF vs. Kleppe, U.S. Federal District Court, South Dakota, 1976
33. Eastern S.D. Water Supply Study, U.S. Corps of Engineers, Task Report #3, September 11, 1979
34. Oahe Unit, S.D. Alternative for James River Water Quality Management, U.S. Bureau of Reclamation, August 23, 1976
35. Lower James Study
36. Memorandum to Secretary of Interior from Solicitor for U.S. Department of Interior, "Residency and the Geographic Application of the Acreage Limitation Under Reclamation Law", December 6, 1979
- 37.
38. "Spink Board Calls for Immediate Oahe Project De-authorization, REDFIELD PRESS, August 9, 1979
39. "Senate Relaxes Limits on Irrigated Holdings and Exempts Big Area", NEW YORK TIMES, September 15, 1979
40. Testimony of Dr. Russell Berry & Dr. Thomas Power, Official Record Benefit/Cost Hearing, Oahe Conservancy Sub-District Board, Redfield, S.D. March 17, 1977
41. Letter to Russell L. Berry from Acting Regional Supervisor of Power, U.S. Bureau of Reclamation, Upper Missouri Region, August 14, 1975
42. Annual Reports, S.D. Crop & Livestock Reporting Service, S.D. Department of Agriculture, 1969, 1970, 1971, 1973, 1974
43. Testimony by George Piper, Official Record Benefit/Cost Hearing, Oahe Conservancy Sub-District Board, Redfield, S.D. March 17, 1977
44. "Principles and Standards for Planning Water and Related Land Resources, Change in Discount Rate", Water Resources Council, Federal Register, Vol. 44, No. 210, October 29, 1979
45. Memorandum - Lower James - Fort Randall Study Meeting, Bureau of Reclamation, September 24, 1979
46. Letter to Bureau of Reclamation from City of Blunt, March 10, 1976
47. Letter to David A. Gerdes, Attorney, City of Blunt from Project Manager, U.S. Bureau of Reclamation, March 23, 1976

48. Summary of Discussion with Town Council, City of Blunt, S.D., U.S. Bureau of Reclamation, March 7, 1977
49. Letter to Mayor Wayne Pool from Acting Project Manager, U.S. Bureau of Reclamation, March 24, 1978
50. Letter to Senator James Abourezk from Commissioner, U.S. Bureau of Reclamation, October 16, 1978
51. Briefing Material - City of Sioux Falls, S.D., Oahe Unit and Related Water Resources Developments - South Dakota, Assistant Commissioner, U.S. Bureau of Reclamation, October 17, 1978
52. Letter to Clarence Erickson from Commissioner, U.S. Bureau of Reclamation, October 23, 1978
53. "Political Committee Formed To Endorse Oahe Candidates", ARGUS-LEADER, Sioux Falls, S.D., June 21, 1978
54. "Group Backing Oahe Slate Raises \$12,000." ARGUS-LEADER, Sioux Falls, S.D. September 20, 1978
55. Financial Reports, Save Our Water Committee, S.D. Secretary of States Office, October 31, 1978 & January 29, 1979
56. Preliminary Information and Data Sheets for Data Unit, PSMBP, U.S. Bureau of Reclamation, March 15, 1977
57. "Oahe Future In Hands of Legislature, Sub-District Board". Senator George McGovern, ABERDEEN AMERICAN NEWS, September 7, 1977
58. "Ham Advocates Taking Oahe Authority" ABERDEEN AMERICAN NEWS, September 7, 1977
59. "Kneip Wants Federal Government To Look Beyond Oahe Board for Okay of Alternatives". Associated Press, December 29, 1977
60. "Oahe Task Force Votes To Recommend 'Hold Position'". ABERDEEN AMERICAN NEWS, December 27, 1977
61. "Suit Challenges Makeup of Oahe Board". ABERDEEN AMERICAN NEWS, March 29, 1977
62. "Oahe Board Votes Must Be Weighed". ABERDEEN AMERICAN NEWS, June 1, 1977
63. "Oahe Vote Ruling Reserved". ABERDEEN AMERICAN NEWS, January 1, 1978

64. "Apportionment of Oahe Board Unconstitutional". Associated Press, July 20, 1978
65. Orr vs. Kneip, Opinion In The Supreme Court of The State of South Dakota, December 28, 1979
66. "Supreme Court Decision Victory for Oahe Sub-District and Local Control". MCPHERSON COUNTY HERALD, Leola, S.D. January 17, 1980
67. "False Memo Incites Speculation". ARGUS LEADER, January 30, 1978
68. Memorandum to Richard F. Kneip, Governor, from White House Water Study Group, THE WHITE HOUSE, "Oahe Irrigation Unit/South Dakota", January 17, 1978
69. "Snow in Washington Foiled Secret Attempt on Friday, Legislators to Meet with Andrus on Monday". Associated Press, January 21, 1978
70. Letter to Representative James Abdnor from Deputy Assitant Attorney General, U.S. Department of Justice, April 3, 1978
71. Findings of Fact & Conclusions of Law, Larson vs. Locken, Circuit Court, Fifth Judicial District, S.D. January 25, 1977
72. "Larson Wins in Irrigation Vote", ABERDEEN, AMERICAN NEWS, April 2, 1978
73. "KELO Reporter Resigns after Pressure on Oahe". SDSU COLLIGIAN, February 11, 1978
74. "Indians Seeking Role in Water Development". AGRUS LEADER, Sioux Falls, S.D. February 11, 1979
75. Memorandum to S.D. Congressional Staff from Owen Amber, "WEB & The Oahe Authorization". December 4, 1979
76. Letter to Tom Fischbach from Assistant Commissioner U.S. Bureau of Reclamation, March 31, 1981.
77. Letter to BillPiper, Director Oahe Conservancy Sub-District, from Oahe Project Manager, U.S. Brueau of Reclamation, October 7, 1976
78. "A Review of the Environmental, Economic and International Aspects of The Garrison Diversion Unit, North Dakota; 28th Report by the Committee on Government Operations, U.S. House of Representatives, July 2, 1976
79. Letter to Brad Tschetter from Advertising Manager, HURON DAILY PLAINSMAN, January 16, 1981

Senator MURKOWSKI. Thank you very much, Mr. Piper. I want to commend you on the submission of your written testimony. I have had a chance to review it during your summary, and it is extremely complete. Very frankly, I am looking forward to reading it in its entirety. It will be submitted for the record.

Senator Abdnor, do you have any comments?

Senator ABDNOR. No.

Senator MURKOWSKI. Gentlemen, thank you very much.

We are going to take a break for about 10 minutes, and then we will be back on the record.

[Whereupon, a short recess was taken.]

Senator MURKOWSKI. Please be seated. We have had a few notes come up to the chairman indicating that some witnesses have had to offer their statements for the record as they have conflicting appointments, and I want to assure you that anybody that is unable to present their testimony may certainly present it any time for the record, and it will be included, and they may proceed with whatever their extra-curricular interest might be.

I am also reminded by the court reporter that when we ask your indulgence to reduce and summarize your presentation, that doesn't really mean the necessity of talking faster, because it makes it a little harder for her. What we are really asking you to do is to specify those areas that you don't feel have been brought up in previous testimony that are significant to the record.

With that, I would again remind you that we are going to adhere to the 3-minute limitation for witnesses. I believe we are in the position of welcoming the tribal panel, Dennis Ickes, representing the Lower Brule Sioux Tribe, Clarence Skye, executive director, United Sioux Tribes, Robert Philbrick, Crow Creek Sioux, Carol Ann Heart.

With that, I would ask that you proceed and welcome to the committee.

STATEMENT OF R. DENNIS ICKES, GENERAL COUNSEL, ON BEHALF OF THE UNITED SIOUX TRIBE OF SOUTH DAKOTA DEVELOPMENT CORP.

Mr. ICKES. Thank you, Mr. Chairman, and thank you, Senator Abdnor for this opportunity to appear before this subcommittee and present testimony which is so vital to all South Dakotans, of which many South Dakotans are comprised of members of the Sioux Tribes.

There are nine Sioux Tribes in South Dakota comprising approximately 70,000 persons and comprising approximately 5 million acres. And those acres, many of those acres are dry land acres which have never heretofore been blessed with the production of water that is necessary in order to make them as productive as they could be.

As the Senators both know, the 1944 Flood Control Act has been referred to many times today as being a source of authority for the providing of cheap power. We want to direct our comments primarily at section 4 of this bill with respect to cheap power, and then we will add some comments with respect to section 2.

Section 4 is an attempt by the Senator to, of course, implement the 1944 Flood Control Act, sections 5, 8, and 9, which were designed to compensate the Upper Missouri River Basin States for the lands that they gave up in order to accommodate the Lower Basin States, primarily the cities of Sioux City, St. Louis, Omaha, and most major places where flood catastrophies were making it almost impossible to function.

Well, among those acres that were given up, over a half a million acres, 330 thousand of those acres belonged to the Sioux people, and they paid a heavy price in order to accommodate the down basin States. And they paid that price knowingly. They provided testimony back in the 1944 act that indicated that they were willing to give up those acres in return for cheap power that would lead to the development of their reservations through the use of irrigated water and making that possible with the cheap power that would accompany that.

Take, for example, there were 18 pumping plants authorized by the 1944 Flood Control Act, and not a single pumping plant has been built and not a single acre has been irrigated. So here we are nearly 40 years later asking this subcommittee to recommend to the committee the enactment of Senate bill 1553 with the modifications that we are going to point out to you.

The irrigation is the main hope of the Sioux people to self-develop in this State. They are not blessed with the large reservoirs of oil and gas and coal, some of the other minerals that are presently popular in this county which have some exotic flare about them.

They are dependent upon their land and water, and presently 40 million acre-feet of water is running down the Missouri River to the Gulf of Mexico to become commingled with salt water and not producing one leaf for the benefit of the Sioux people or for the economy of South Dakota. So we are here nearly 40 years later to remind the representatives of the people in the Senate that the time is long overdue for the Sioux people to also participate in the benefits of water development.

Section 4, the United Sioux Tribes of South Dakota supports section 4 but would ask that there would be some revisions of section 4 primarily to clarify that contracts can be made with the tribes as well as with State and to make that clear.

We also would like to make reference to section 2(a)(4) of the bill because as that's presently worded, it could be misconstrued to mean the Governor of the State of South Dakota in accordance with State policies and State priorities would be responsible for proposing water projects within Sioux reservations.

And we believe that in light of the special relationship that reservations have with the Federal Government, with the President and the Secretary of the Interior, that it would be inappropriate for the Governor of this State to be the one who is responsible for recommending projects on reservations.

So we would ask that this be clarified and add the words:

The Secretary of the Interior shall determine the potential for development of water projects within the exterior boundaries of all Indian reservations which have boundaries within South Dakota in addition to those projects already authorized by Senate Document 191.

As to section 2(b), we recommend the addition of the following sentence:

Nothing here in this act shall be construed as limiting the authority of the Secretary of the Interior to establish other criteria for projects which may be developed within the exterior boundaries of any Indian reservation.

So in conclusion, the United Sioux Tribes, which is really a confederation, it was organized for the sole benefit of furthering the economic development of the Indian people of this State, recommends the enactment of Senate bill 1553 but with some modifications to section 4 and section 2(a) as I indicated.

And in closing, the Sioux people are proud of their heritage and are proud of their contributions, however, they have been forced to involuntarily contribute their land for gold miners, for railroads, for farms and ranches, and now they have been forced to give up over 330,000 acres of land for dams and reservoirs. And at this time we are asking that we finally participate in the benefits having given up those lands for the downstream States' benefit.

On behalf of the United Sioux Tribes, I thank you for the opportunity to testify.

[The prepared statement of Mr. Ickes follows:]

STATEMENT OF R. DENNIS ICKES
TO THE SUBCOMMITTEE ON
WATER AND POWER, COMMITTEE
ON ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE

ON BEHALF OF UNITED SIOUX
TRIBES OF SOUTH DAKOTA
DEVELOPMENT CORPORATION

Saturday, September 12, 1981
Pierre, South Dakota

STATEMENT OF R. DENNIS ICKES, GENERAL COUNSEL
UNITED SIOUX TRIBES OF SOUTH DAKOTA DEVELOPMENT CORPORATION
CONCERNING S.1553, 97TH CONGRESS, 1ST SESSION

Mr. Chairman and members of the Subcommittee, I am R. Dennis Ickes general counsel to the United Sioux Tribes Development Corporation. With me today is Mr. Clarence Skye, Executive Director of United Sioux Tribes Development Corporation. The United Sioux Tribes of South Dakota Development Corporation is a District of Columbia Corporation whose primary purpose is to promote, inspire and bring about the economic development of the Indian people of South Dakota and throughout all of Sioux County of North Dakota, South Dakota and Nebraska.

We appear before you today in furtherance of the primary purpose of the Development Corporation, that is, to advance the day when Indian people individually and Indian tribes collectively, within the Missouri River Basin, can at last benefit from promises that were made to them and all states within the Upper Missouri River Basin in 1944 at the time that the Flood Control Act of 1944 was enacted as the law of the land. There are many times when Indian tribes and the states in which they are located disagree about a range of subjects, but on the

subject of compelling the National Government to live up to its promise of providing cheap power for irrigation purposes, the Sioux Tribes stand shoulder to shoulder with North Dakota, South Dakota and Nebraska.

The Development Corporation lauds the Subcommittee for coming to the heart of Sioux Country to acquire the views of all those citizens who have been affected by the past Missouri River Basin policies of the National Government and those who will be affected by S. 1553.

We direct our comments primarily at Section 4 of S. 1553 which provides that the Secretary of the Interior, in cooperation with the Department of Energy, will be authorized to make available the Pick-Sloan rates of 2 1/2 mills per kilowatt hour to irrigation projects constructed in South Dakota by Indian tribes or by public entities organized under State law and which have been authorized by the Flood Control Act of 1944 to receive such power. The Secretary of the Interior is directed by Section 4 to make such power available to any such State entity or Indian tribe at their request regardless of the source of funding for their respective irrigation projects.

Section 4 of the Bill is an attempt by the frustrated citizens of South Dakota to compel the National Government to implement Sections 5, 8 and 9 of the 1944 Flood Control Act. These three sections of the 1944 Flood Control Act empower the

Secretary of the Interior to utilize impounded water behind a Corps of Engineers dam for irrigation purposes as the Secretary of the Interior deems necessary after making factual findings required by other reclamation laws. Indian tribes have a different set of criteria concerning those findings. As a result of numerous extensive studies made by both the Corps of Engineers and the Bureau of Reclamation which lead up to the enactment of the 1944 Flood Control Act, a number of irrigation projects were authorized and their initial stages were directed to be commenced. These projects are identified in House Document 475 and Senate Document 191, Seventy-eighth Congress, Second Session; as revised and coordinated by Senate Document 247, Seventy-eighth Congress, Second Session. The Missouri River Basin was further modified by House Document 342, Seventy-eighth Congress, First Session. A list of authorized projects for South Dakota are attached as Exhibit A and incorporated herein. Also attached as Exhibit B is a list of reclamation projects located within South Dakota which have been designated to receive annual authorizations for reclamation project construction for the period of 1903 through January, 1981. As can be readily seen by a quick scan of the attached Exhibits A and B, reclamation construction has been significantly restricted in this State to Bell Fourche, Angostura, Rapid Valley, Oahe, Polleck Herreid, and WEB. An attached Exhibit C discloses the distribution of annual

allotments to units and activities of the Pick-Sloan Missouri Basin Program for the years 1946-1979 which further demonstrates the limited funding support for South Dakota water development. In South Dakota, between the years 1946 and 1976 \$70,882,267 was distributed for construction, \$6,185,744 for investigations, and \$9,405,414 for advance planning. Each annual allotment represents 5%, 3% and 6% respectively of the entire allotments made for the Pick-Sloan Missouri Basin Program for the period 1946-1979. As can be quickly understood from the statistics the National Government does much more planning for South Dakota than it does construction. Except for Oahe, there has been no Pick-Sloan Missouri Basin Program construction allotments in South Dakota later than 1975.

Notwithstanding the commitments made by the 1944 Flood Control Act to reclamation and irrigation, there has been very little follow through by the National Government in South Dakota. In the last nearly 40 years those persons who were responsible for creating the National Government's obligation to us in the Upper Missouri River Basin have passed from positions of authority. It is our task to remind the National Government that those commitments made 40 years ago are still in effect and we demand that they be complied with.

By 1949, about forty percent (40%) of the Pick-Sloan program had been initiated. Major dam works in progress by that

time were Garrison, Boysen, Oahe, Canyon Ferry, Cherry Creek, Heart Butte, Fort Randall and nine (9) others. The Missouri River Basin at that time had become one of the most thoroughly regulated and controlled rivers in the world, with the annual average flow of 40.4 million acre feet at Kansas City and 57.8 million acre feet at Herman, Missouri, making a total storage capacity of the reservoirs completed or under construction over 100 million acre feet. The only portion of the original Pick-Sloan plan that was lagging behind in development as scheduled was irrigation. Commissioner Dominy acknowledged this fact in 1961 when he testified at The Public Work Appropriations for 1960, Hearings, Committee on Appropriations, U.S. House of Representatives, 86th Congress, 1st Sess., Part 2, p. 395.

Due to various circumstances, irrigation was purposely deferred, and yet implicit in the Pick-Sloan compromise had been the idea that the lower Basin would aid the upper Basin in obtaining irrigation to compensate them for the valuable acres of bottom land inundated by the construction of the reservoirs needed for successful flood control and navigation in the lower Basin. Mr. Holum, the Under Secretary of the Interior at that time, acknowledged this idea of beneficial reciprocity between the upper and lower basins by stating the following concerning North Dakota. U. S. House, Garrison Diversion Unit, Feb. 20, 1964

In the context of states . . . such as North Dakota . . . over 500 thousand acres of Missouri River bottom land was given up to provide flood protection for the down stream states. North Dakota very confidently expected that a million acres of irrigation land would eventually replace the negative benefits it received in providing this flood protection.

Along with other states, South Dakota suffered the loss of prime bottom land by inundation caused by Gavins Point, Fort Randall, Oahe and Big Bend Reservoirs. Senator George McGovern calculated the loss as:

. . . 509,000 acres of prime bottom land inundated under four (4) main stream reservoirs. We have given up more land to lake bed than will ultimately be irrigated when the entire 490,000 acre project Oahe Irrigation projects invisioned now is completed. It is estimated that the loss of these lands to productive use represents a loss of potential income or business volume of more than 20 million annually. U.S. Senate, Mar. 2, 1966, Congressional Record, pp. 4634-4638.

While the Lower Basin reaped the benefit of navigation and flood control, the Upper Basin gave up a significant portion of its best farm land.

The BIA was well informed of this fact at the time of the inauguration of the 1944 Flood Control Act, but believed that this loss would be compensated by irrigation development.

The Pick-Sloan Plan proposed and included several Sioux

irrigation units for the explicit purpose of reclaiming arid land and making it productive. This reclamation goal becomes even more essential in light of the productive farm land sacrificed for other reclamation and flood control projects. The BIA and the Indians supported the Bureau of Reclamation's proposed Sloan plan because of this promise of irrigating the remaining arid Indian land. Irrigation development has too long been delayed and curtailed at the Upper Basin's and the Indians' expense. Sioux Tribes now desire to reclaim and make agriculturally productive their lands by constructing the 1944 authorized units. In view of their lost farm lands they believe that they are at least entitled to the irrigation units that were planned to compensate them for the losses.

The units as outlined in Senate Document 191 were specifically designed with the idea that they would receive cheap power generated by the respective Dams. The availability of cheap power is basic to Sioux irrigation development. Without the availability of cheap power portions of the Sioux units may not be economically feasible. Therefore, the Sioux Tribes strongly believe that they are entitled to the development of the 1944 authorized Units with governmental assurance that they will receive the cheap power needed to maintain, operate and make those units economically feasible.

The national objective articulated in the Reclamation

Laws of 1902, 1939 and the Flood Control Act of 1944, is to encourage and aid rural and agricultural development by reclaiming arid western land through irrigation. Power generation has been ancillary to this purpose and viewed from the inception as a means of support and subsidization to this greater objective. Sioux Tribes, as irrigation users, are entitled to the benefit of the power generated by the respective dams, perhaps over and above other non-irrigation users.

The 1902 Act (43 U.S.C. Sec. 391) established a national policy of government involvement and encouragement of nation-wide irrigation development. However, the government adopted the principle that beneficiaries of irrigation development should pay their share of construction and operation costs allocated to them. This practice proved too burdensome for the beneficiaries of irrigation development and, as a result, irrigation development began to founder. Recognizing this, the government all but abandoned this principle of full repayment as evidenced in the major provisions of the Reclamation Act of 1939. Along with formulating different cost benefit standards and liberalizing methods of pay-back, also implicit in this document, is the directive that power revenues be used to aid irrigation.

The use of power revenues to aid irrigation had its birth in the Townsite and Power Act of April 16, 1906, Ch 1631, 34 Stat. 116. This concept was continued throughout later

legislation, firmly establishing the principle of power revenues serving as the "paying" partner of irrigation. While the 1939 Reclamation Act still required full repayment of all actual costs allocated to irrigation beneficiaries, it announced that power revenues may be assigned to cover all cost allocated to irrigation which were beyond the farmer's ability to pay. U. S. Department of the Interior, Federal Reclamation and Related Laws Annotated, 650 (1972).

The foregoing discussion illustrates the intimate relationship existing between power generation and irrigation development. Power generation, an ancillary benefit of irrigation reclamation, has been used by the Bureau and the Department of the Interior for subsidization and aid to its main legislated purpose: irrigation. The Bureau's policy has always been to deal with power as a by product of this larger objective. U.S. Department of the Interior, Bureau of Reclamation, "The Place of HydroElectric Power in Reclamation".

This was the view adopted by the Bureau under the Pick-Sloan Plan. Power generation, a by-product of the Basin's reclamation would be turned back and used to the benefit of the less profitable irrigation development. This transformed formerly economically non-feasible irrigation projects into feasible ones. The Sioux units, from the outset, were dependent upon receiving the cheap power generated as a by-product of the

overall Basin reclamation.

Unfortunately, as previously mentioned, irrigation has lagged behind other Basin developments. One of the major contributing factors in curtailment of irrigation development has been that hydroelectric power, the "paying partner" of irrigation, has been allocated an ever increasing share of the total costs of the dam projects. U.S. Government, Department of Interior, Report on Financial Position, Missouri River Basin Project, Washington, D.C., Dec., 1963.

In light of all this, the Sioux Tribes in their efforts to partially realize the irrigation benefits promised by the Pick-Sloan plan, now request that they receive the cheap power that they, along with other authorized units in South Dakota, have been entitled to under that plan. The power generated at the various mainstem dams and other Basin dam sites should be obligated first to be used for the benefit of irrigation users before it is distributed to other municipal or commercial users. Based on the long historical relationship between power and irrigation, as well as the direct relationship proposed by the Pick Sloan Plan, the Sioux Tribes believe that they and other authorized units in South Dakota have equitable priority to this cheap power. Inasmuch as current Executive Branch policies are blocking the attainment of cheap power through existing law we endorse achieving cheap power through S. 1553.

As residents of the Upper Missouri River Basin the Sioux and other South Dakotans paid a high price to extract the promises made in Sections 5, 8 and 9 of the 1944 Flood Control Act. The legislative history discloses that there was a lot of "horse trading" going on to reach a consensus on the Act. The upper Missouri River states, which included South Dakota, were pitted against the lower Missouri River states insofar as benefits and detriments were concerned. The lower Missouri Basin states and their principal cities, such as Omaha, St. Louis and Kansas City were the victims of frequent and severe flooding, especially in the spring. In order to control the Missouri River so as to eliminate or minimize the effects of floods the lower Basin states proposed that a series of dams be built on the mainstem of the River. The natural consequences of the construction of such dams was that the upper basin states would have large land areas inundated with water held in reserve by the dams and the lower basin states would reclaim some of their previously lost lands and would exist without fear of the previous enormously costly floods. The upper basin states realized that their loss was the lower basin's gain. In order to equalize the benefits to both the upper and lower basins, the upper basin successfully fought for the benefit of cheap hydroelectric power which was proposed to be generated from the multipurpose dams. Thus, in Section 5 of the 1944 Flood Control

Act the Congress required that each hydroelectric dam's surplus electrical power and energy be delivered to the Secretary of the Interior who was directed to distribute the power to consumers but with a preference for public bodies and cooperatives. Sales of electric power under Section 5 are in three principal classes: firm power, preference power and Pick-Sloan power. Firm power is at a commercial rate, preference power at the rate of 5 mills per kilowatt hour and the Pick-Sloan power at the rate of 2 1/1 mills per kilowatt hour.

The Solicitor of the Department of the Interior has taken the legal position that Indian tribes qualify as preference customers pursuant to Section 9(c) of the Reclamation Project Act of 1939, and thus, apparently the tribes qualify as such pursuant to Section 5 of the 1955 Act. Solicitor Opinion M-36771, July 25, 1967. The Interior Solicitor has again taken the position that Indian tribes qualify as preference customers, but has opined that it is necessary for any project authorized by the 1944 Flood Control Act to obtain funding reauthorization and appropriation in order for the unit to be considered a component of the Pick-Sloan Missouri Basin Program and thus eligible for the 2 1/2 mill rate. Memorandum from the Solicitor to the Assistant Secretary, Land and Water Resources, June 19, 1981. Such internal memorandum is attached as Exhibit C and is incorporated herein.

The Interior Solicitor's position that Indian tribes within the Missouri River Basin qualify as preference customers for surplus power would be exciting, except that the same Department of the Interior through its Bureau of Indian Affairs failed to inform the Sioux Tribes that the Western Area Power Administration of the Department of Energy, planned to hold hearings on a post-1985 Pick-Sloan Missouri Basin Program marketing plan. None of the hearings were attended by the Sioux's trustees in the Bureau of Indian Affairs and no advocacy for preference power for Indian irrigation was conveyed. The net result of the failure of such advocacy, or even the dissemination to the Sioux tribes of that information has resulted in a lost opportunity to obtain even preference power until perhaps as late as the year 2000. Sioux tribes are now left with four alternatives: (1) pay commercial rates for their power which is approximately six cents per kilowatt hour (over 20 times the Pick-Sloan rate and over 10 times the preference rate); (2) wait until the year 2000 to try to obtain preference power; (3) litigate the Department of the Interior's position on Pick-Sloan power for 1944 authorized projects; or (4) advocate the passage of S. 1553.

For the Sioux tribes when they are entitled as a matter of law to power rates at no less than 1/10 of the commercial rates it makes no economic sense to continue to pay commercial

rates. Unfortunately, their trustee failed to even inform us of the rate hearings or their significance and the opportunity to participate as a preference customer appears delayed for nearly 20 years. While litigation against the Department of the Interior is a viable alternative the Sioux do not have the funds to pursue such an expensive option, although we have not precluded ourselves from doing so. Therefore, the most immediate opportunity available to Sioux tribes is to advocate for the passage of S. 1553 which we interpret will accomplish the same result.

Sioux tribes continue to assert that every project authorized by the 1944 Flood Control Act, and which has not been subsequently deauthorized by an Act of Congress equivalent in dignity, is entitled to Pick Sloan power rates of 2 1/2 mills per kilowatt hour. We further implore the Congress to fund those 1944 authorized projects without further delay and without further requirements that each project must re-submit findings pursuant to other Reclamation laws. Sioux people, lands and irrigation projects have been studied to death. As is disclosed by the attached Exhibit D, South Dakota Sioux reservations have had at least 41 reclamation investigations since 1942, but not one irrigation unit funded for construction. Instead, we watch our reserved water rights flow by our reservations and down to the Gulf of Mexico to become unproductive salt water. We

consider the non-use of water a waste of water if such water is unused at a time when it is available for use.

Section 4 of S. 1553 would in our opinion require the Secretary of the Interior to acknowledge Indian tribal rights to 2 1/2 mills per kilowatt hour for projects constructed in South Dakota by Indian tribes regardless of the source of such funds. Sioux tribes have awakened to the fact that they will be severely penalized by the National Government if they continue to wait for the National Government to fulfill its obligations to construct irrigation projects on their reservations. We have been lulled by the National Government into believing that "next year" our irrigation project will be appropriated and allocated funds and that eventually our projects will be constructed. When the next year comes we find that they really meant the following year. The Reagan Administration and this Congress have given us hope that we will finally receive a portion of the funding for projects on the Sioux Reservations of Standing Rock, Lower Brule and Crow Creek through the Snyder Act appropriations through the Bureau of Indian Affairs, but if the Interior Solicitor's opinion is Department of Interior policy it will prevent the Sioux from obtaining Pick Sloan power. Even BIA funding has not been successful in assisting Cheyenne River in getting a project started there even though they have a viable project ready to be started

However we realize that the National Government's budget demands may limit continued funding and thus, Congress must assist us now through S. 1553 in helping ourselves qualify for the 2 1/2 mill rate so that we can more readily finance the completion of initiated projects and the commencement and completion of future projects.

When we earlier stated that South Dakotans have already paid the price for cheap power for irrigation purposes we meant that Sioux tribes as a group paid the highest price in terms of lands lost to flood control reservoirs. In North Dakota the Three Affiliated Tribes of the Fort Berthold Reservation lost 155,000 acres out of its reservation consisting of 585,000 acres (26.5%) to the Garrison Project; in North Dakota and South Dakota where the Standing Rock Sioux Tribe held 1,053,000 acres it lost 56,000 acres (5.3%) to the Oahe Project, the Cheyenne River Sioux Tribe lost 105,000 acres out of its total reservation of 1,618,000 acres (6.25%) to the Oahe project, the Crow Creek Sioux lost _____ acres out of a reservation of _____ acres (____%) to the Big Bend and Ft. Randall projects, Lower Brule Sioux Tribe lost 22,000 acres to the Big Bend and Ft. Randall projects out of a reservation of 250,000 acres (10%), and the Yankton Sioux Tribe lost _____ acres out of a _____ acre reservation (____%) to the Ft. Randall project. Even though each Tribe and its individual

members who lost land to the project were either compensated through a judicial or congressional determination, the sums of money received will never replace those tribes' most valuable assets - fertile bottom land. It was these prime bottom lands that had provided timber for lumber, firewood and shade for their cattle. This same timber also provided protection for wildlife upon which the tribal members relied for food, clothing and ceremonial purposes. Tribal livestock found the bottom areas hospitable to grasses and shelter from summer heat and winter storms. The natural rich soils and the attending subirrigation along these river bottoms held enormous potential for large scale tribal agricultural development and did in fact provide excellent individual farms for Sioux allottees. However, the construction of the Fort Peck, Garrison, Oahe, Big Bend, Fort Randall and Gavins Point dams for the benefit of down stream states resulted in approximately 509,000 acres being taken for dam and reservoir purposes, of which approximately 330,000 acres were Indian lands. It was injurious enough to the Sioux to have their lands taken for dam and reservoir purposes but we are now being told by the Corps of Engineers that in addition the Sioux also had their lands taken to provide picnic and recreational facilities for off-reservation people.

In essence, the Sioux have been subjected to a continuous series of land takings starting with the Black Hills,

then the sale of their surplus lands, then the allotment system, and then the dam and reservoir takings. The Sioux boundaries have been under constant pressure from the friends of land speculators and expansionist farmers and ranchers. The Sioux' only available protectors are the federal courts, the President and the Congress.

The Sioux turn to this Subcommittee and its consideration of S. 1553 to assist them in making the best of what the Sioux have left. Having lost their best lands to the needs of Omaha, St. Louis, Kansas City, etc. the Sioux must now look to the less productive lands from which to achieve self-development. Inasmuch as the Sioux do not possess known quantities of coal, oil, gas or other presently valuable minerals they must look to the fertility of their soil in combination with water to achieve their goal of viable self-development. Lifting water from the Missouri River and its tributaries and piping it away from the reservoir/river to irrigable lands requires substantial electrical power which at commercial rates is a tremendous cost. However, Section 4 of S. 1553 offers hope that the Sioux will be able to afford to irrigate those lands which must be viewed as substitute agricultural lands in place of their former bottom lands. Enactment of this Section 4 will compel the Secretary of the Interior and the Secretary of Energy to provide the 2 1/2 mill per kilowatt hour to 1944 Flood Control Act

authorized projects. Enactment of this Section will also make it possible for the lower Missouri River Basin states to keep the promise they made at the time the 1944 Act was enacted, i.e., to bear some of the cost of providing inexpensive power to the upper Missouri River Basin states in exchange for the security of upper River flood control dams and reservoirs.

We also direct the Subcommittee's attention to the provision of Section 4 which requires that the 2 1/2 mill power rate "shall be made available at the request of the State of South Dakota or an Indian Tribe, regardless of the source of construction funding for such irrigation projects". The drafter of S. 1553 knows that the Sioux and the people of South Dakota are not wanting to wait another 40 years to be studied, investigated, reported and maybe finally authorized again for construction. The Sioux recognize that if Section 4 becomes law they have the potential of raising their own funds and constructing their own projects if they qualify for the 2 1/2 mill rate regardless of opinions presently held by Administration officials. Enactment of this provision of Section 4 will be for the best interest of the Sioux, the State of South Dakota and the Nation by giving incentives to Sioux self-development which in turn will result in more lands being cultivated, more crops available for supplying food to the Nation and the world, more money circulating on the Sioux reservations and in the State's

economy, and more Sioux being productively engaged in the meaningful economy of our Nation.

Our endorsement of S. 1533 is conditioned upon the addition of specific language which describes the conditions under which the Secretary of the Interior would be obligated to make such rates available to tribes and public entities. Section 4 presently leaves too much discretion with the Secretary. We recommend that a priority system be established which gives highest priority to non-reclamation funded projects, next highest priority to projects constructed in economically depressed areas, and a third priority to projects build pursuant to reclamation studies and funds. We further recommend that, in order to encourage quick development of such projects and to attract private capital for the building of such projects, that the authorized entity be specifically permitted to allocate to private capital investors such terms of income, gain, loss, deduction and credits as would otherwise be allocable to appropriate entities under Section 704(b)(2) of the Internal Revenue Code.

Section 2(a)(4) deserves comment by the Sioux inasmuch as presently worded it could be misconstrued to mean that the Governor of the State of South Dakota in accordance with state policies and priorities would be responsible for proposing water projects within Sioux reservations. We recommend that

this be clarified by adding the words "The Secretary of the Interior shall determine the potential for development of water projects within the exterior boundaries of all Indian reservations which have boundaries within the State of South Dakota in addition to those projects already authorized by Senate Document 191, 78th Congress, 2nd Session."

As to Section 2(b) we recommend the addition of the following sentence: "Nothing herein this Act shall be construed as limiting the authority of the Secretary of the Interior to establish other criteria for projects which may be developed within the exterior boundaries of any Indian reservation."

Section 2(d) should be modified to read, "The Secretary may contract with the State or an Indian tribe to carry out the studies authorized by this Section."

CONCLUSION

We have limited our comments to Section 4 and leave to others who are more directly affected by the remaining sections to comment on those sections. The Sioux are proud of their heritage and are proud of their contributions to the culture of the nation. However, they have been forced to voluntarily contribute our valuable lands for gold miners, for railroads, for farms and ranches, and now for dams and reservoirs. The payments received will never compensate this generation or

future generations of Sioux for the lost productivity of taken lands, but the enactment of Section 4 of S. 1553 will assist the present and future generations of Sioux in making a viable and attractive homeland for them to reside upon and to meaningfully benefit from by making cheap power available for agriculture development.

Thank you for this opportunity to express our views.

EXHIBIT A

ORIGINAL PLAN OF THE BUREAU OF RECLAMATION
AS DESCRIBED IN SENATE DOCUMENT 191, 78TH CONGRESS

SOUTH DAKOTA PUMPING UNITS
 ON THE MAIN STEM OF THE MISSOURI RIVER

<u>Original Name</u>	<u>Estimated Original Cost</u>	<u>Acres</u>
Chantier Unit	31,000	570
Fort Randall Unit	75,000	900
Cul-de sac Unit	395,000	5.660
Fort Hale Unit	233,000	2,100
Fort Thompson Unit	551,000	7.710
Big Bend Unit	580,000	8,520
Greenwood Unit	217,000	4,210
Grosse Unit	42,000	650
Red Cloud Unit	162,000	1,850
Joe Creek Unit	509,000	6,560
LaFramboise Unit	78,000	1.050
LaRoche Unit	194,000	2,720
Oahe (Verendrye) Unit	98,000	1.850
Pierre Unit	63,000	900
Rousseau Unit	305,000	3,310

Running Water Unit	86,000	1.640
Tower Unit	105,000	2,130
Yankton Unit	156,000	2,390
TOTALS	3,644,000	54,700

Source: Statement of Under Secretary of the Interior James K. Carr before the Subcommittee on Irrigation and Reclamation, Committee on Interior and Insular Affairs, United States Senate, April 10, 1962, Appendix C, p. 5.

EXHIBIT "B"

ANNUAL AUTHORIZATIONS FOR RECLAMATION PROJECT
CONSTRUCTION IN SOUTH DAKOTA (1903-1981)

<u>FISCAL</u> <u>YEAR</u>	<u>PROJECT</u>	<u>ACTION</u>	<u>DATE</u>	<u>ESTIMATED COST</u> <u>OR AMOUNT</u> <u>AUTHORIZED</u>
1904	Belle Fourche	By section	May 10, 1904	2,100,000
1911	Belle Fourche	Reapproved by Pres.	Jan. 5, 1911	3,150,000(d)
1941	Angostura, W.C.U. (Now in MRB)	Approved by President	Mar. 6, 1941	3,300,000(f)
1941	Rapid Valley, Pactola Dam, W.C.U.	Reapproved by Pres.	Oct. 25, 1940	270,000(a,f)
1942	Rapid Valley, Deerfield Dam W.C.U.	Reapproved by Pres.	Jun. 5, 1942	(c)
1944	Missouri River Basin (Incl. U.S.C.E.)	Approved by President	May 1, 1944	1,257,645,700
1944	Rapid Valley, Deerfield Unit Completion W.C.U.	Approved by President	Nov. 22, 1943	1,118,000(d)
1969	MRB, Oahe Unit, James Division, Ini- tial Stage	PL 90-453	Aug. 3, 1968	191,670,000
1975	Reclamation Development Act of 1974 Beile Fourche Dam Re- habilitation	PL 93-493	Oct. 27, 1974	3,620,000(a)

1976	Reclamation Authorization Act of 1975 Pick-Sloan Missouri Basin Program; Pollock- Herreid Unit, S.D. Pumping Division	PL 94 228	Mar 11, 1976	26,000.000
1980	WEB Rural Water Development (Sec. 9(a)) (Contin- gent on Oahe, de- auth.) (Sec. 9(b))	PL 96-355	Sep. 24, 1980	1,900,000 68,100,000

-
- (a) Includes only amounts not in previous authorizations.
 - (b) No amount available at time of authorization.
 - (c) Amount included in previous authorization.
 - (d) Includes amount from previous authorization.
 - (e) Authorization recommended, estimated cost. Subsequent appropriation authorization made by Acts of Congress were based on this finding of feasibility. Name changed to Pick-Sloan Missouri Basin Program on December 24, 1970 (PL 91-576).
 - (f) Cost includes WPA funding requirements.

Source: United States Department of the Interior, Bureau of Reclamation Report Entitled "Annual Authorizations for Reclamation Project Construction", January 13, 1981.

EXHIBIT C

UNITED STATES
DEPARTMENT OF THE INTERIOR
Water and Power Resources Service

DISTRIBUTION OF ANNUAL ALLOTMENTS TO UNITS AND ACTIVITIES OF PICK-SLOAN MISSOURI BASIN PROGRAM
Fiscal Years 1966 - 1979

Page 1 of 2

ACTIVITY UNIT AND DIVISION	CUMULATIVE 1966 - 1975	1976	1977	1978	1979	TOTAL
CONSTRUCTION 1/						
UPPER MISSOURI REGION						
Amesbury, Cheyenne, South Dakota.....	\$15,237,098	---	---	---	---	\$15,237,098
Boysen, Wyoming.....	33,705,495	---	---	---	---	33,705,495
Lanyon Ferry, Helena-Great Falls, Montana.....	28,016,889	---	---	---	---	28,016,889
Conservation and Wildlife Enhancement.....	3,810,755	\$7,569,979	\$1,150,000	\$3,645,987	\$1,761,001	\$16,047,967
Crow Creek Pump, Three Forks, Montana.....	1,652,770	---	---	---	---	1,652,770
Dickinson, Heart, North Dakota.....	1,478,515	---	---	---	---	1,478,515
Dickinson Dam Modification, water supply.....	0	---	---	154,000	904,755	3,080,973
East Bench, Three Forks, Montana.....	27,629,021	86,673	-10,000	53,129	49,867	27,818,610
Fort Clark, North Dakota Pumping, North Dakota.....	641,904	---	---	---	---	641,904
Garrison Diversion, Garrison, No. Dak.-So. Dak.....	86,340,945	18,148,109	2,700,000	24,197,537	18,686,397	147,084,416
Pinot Extension, North Dakota.....	3,130,021	94,833	36,000	91,676	-6,893	3,347,737
Manover-Bluff, Bighorn Basin, Wyoming.....	5,019,081	---	---	---	---	5,019,081
Heart Butte, Heart, North Dakota.....	4,344,520	---	---	---	---	4,344,520
Helena Valley, Helena-Great Falls, Montana.....	15,319,165	+117	---	180,991	249,808	15,947,911
Jamestown, Garrison Diversion, North Dakota.....	3,433,933	---	---	---	---	3,433,933
Kayhole, Cheyenne, Wyoming.....	4,720,249	---	---	---	---	4,720,249
Lake Ames Well, South Dakota Pump, So. Dak 1/.....	(1,000)	---	---	---	---	---
Lower Harlas, Harlas, Montana.....	22,963,079	499,684	5,000	4,792,843	8,554,314	36,429,355
Lower Harlas, Harlas, Montana.....	13,045,157	9,040,000	3,100,000	17,189,779	239	42,375,225
Old Creek, Bighorn Basin, Wyoming.....	6,275,016	69,291	---	86,909	-6,448	6,319,076
Rapid Valley, Cheyenne, South Dakota.....	7,452,830	---	---	---	---	7,452,830
Riverton, Wind, Wyoming.....	29,151,835	2,191,525	575,000	2,997,498	4,375,621	42,179,594
Savage, Yellowstone, Montana.....	521,936	---	---	---	---	521,936
Shadehill, Grand, South Dakota.....	7,876,057	---	---	---	---	7,876,057
Yellowtail, Lower Bighorn, Montana-Wyoming.....	90,344,916	2,641,882	454,000	838,678	-712	94,189,029
Transmission (allocation):						
Iowa.....	21,359,000	5,676,000	2,545,000	2,433,000	---	31,913,000
Minnesota.....	14,708,000	---	---	---	---	14,708,000
Missouri.....	650,000	---	---	---	---	650,000
Montana.....	14,557,814	34,146	-2,000	12,179	-17,244	14,584,895
Nebraska.....	17,707,000	---	---	---	---	17,707,000
North Dakota.....	65,900,658	137,715	2,000	48,631	-45,880	66,039,124
South Dakota.....	114,641,482	13,289,327	7,550,000	9,236,308	-1,510,806	143,082,421
Wyoming.....	6,695,218	---	---	---	---	6,695,218
Subtotal, Transmission.....	235,919,672	19,137,188	10,095,000	17,330,118	-1,577,929	295,179,852
Subtotal, Construction, Upper Missouri Region.....	661,851,089	57,510,152	10,116,000	85,477,540	30,007,122	834,968,734
LOWER MISSOURI REGION						
Ainsworth, Sandhills, Nebraska.....	25,057,963	27,206	---	-153	-1,594	25,083,422
Almena, Kansas, Kansas.....	29,678,116	-489	---	---	---	29,677,627
Arnel, Upper Republican, Colorado.....	13,310,030	---	---	---	---	13,310,030
Bastwick, Nebraska-Kansas.....	48,074,457	1,280,543	340,000	1,587,497	1,739,795	52,102,818
Cedar Bluff, Smoky Hill, Kansas.....	17,874,429	-1,268	---	---	---	17,873,161
Farwell, Middle Loup, Nebraska.....	32,751,801	874,425	450,000	779,294	599,423	35,600,386
Frenchman-Cambridge, Nebraska.....	81,255,636	189,141	40,000	192,917	124,186	81,626,456
Glen Elder, Solomon, Kansas.....	55,505,103	-2,431	---	---	---	55,502,672
Glendo, Oregon Trail, Wyoming-Nebraska.....	43,280,753	---	---	---	---	43,280,753
Kiowa, Solomon, Kansas.....	18,799,930	---	---	---	---	18,799,930
Kortez, Oregon Trail, Wyoming.....	14,513,653	---	---	---	---	14,513,653
Marquette, South Platte, Colorado.....	411,161	1,399,966	400,000	3,094,304	-160,429	5,144,572
North Loup, Nebraska.....	0	589,000	57,000	1,185,690	5,269,422	10,480,783
O'Neill, Lower Niobrara, Nebraska.....	0	945,000	150,000	1,495,808	4,499,791	3,100,568
Sargent, Middle Loup, Nebraska.....	5,385,159	---	---	---	---	5,385,159
Webster, Solomon, Kansas.....	17,012,808	---	---	---	---	17,012,808
Transmission (allocation):						
Colorado.....	3,855,752	178,000	---	---	---	3,233,752
Iowa.....	200,000	---	---	---	---	200,000
Montana.....	500,000	---	---	---	---	500,000
Nebraska.....	14,338,559	---	---	---	---	14,338,559
Wyoming.....	28,058,805	-153	20,000	866,807	-1,969	28,943,436
Subtotal, Transmission.....	44,154,116	177,847	20,000	866,807	-1,969	45,216,747
Subtotal, Construction, Lower Missouri Region.....	436,063,195	5,486,940	1,457,000	9,702,164	12,068,625	464,916,423
Technical Records and As-Built Drawings.....	80,475	---	---	---	---	80,475
Total, Construction.....	1,098,004,759	56,997,092	19,573,000	94,679,704	42,069,747	1,301,808,634
REHABILITATION						
UPPER MISSOURI REGION						
Riverton, Wind, Wyoming.....	4,332,199	---	---	---	---	4,332,199
LOWER MISSOURI REGION						
Frenchman-Cambridge, Nebraska.....	0	---	---	275,000	699,206	689,563
Total, Rehabilitation.....	4,332,199	---	---	275,000	699,206	5,998,968
EMERGENCY FUND						
UPPER MISSOURI REGION						
Dickinson, Heart, North Dakota.....	288,300	---	---	---	---	288,300
Manover-Bluff, Bighorn Basin, Wyoming.....	395,000	---	---	-16,579	---	378,421
Lower Harlas, Harlas, Montana.....	277,141	---	---	---	---	277,141
Riverton, Wind, Wyoming.....	143,391	---	---	---	---	143,391
Transmission, Various.....	1,380,297	-178	---	---	---	1,380,119
Subtotal, Upper Missouri Region.....	2,484,129	-178	---	-16,579	---	2,467,372
LOWER MISSOURI REGION						
Bastwick, Nebraska-Kansas.....	14,316	---	---	---	---	14,316
Farwell, Middle Loup, Nebraska.....	0	---	---	218,000	---	218,000
Kiowa, Solomon, Kansas.....	0	---	---	155,000	-2,957	152,043
Sargent, Middle Loup, Nebraska.....	0	---	---	246,000	---	246,000
Transmission, Various.....	90,762	---	---	---	---	90,762
Subtotal, Lower Missouri Region.....	105,078	---	---	619,000	-2,957	719,121
Total, Emergency Fund.....	2,589,207	-178	---	599,421	---	3,188,450

DISTRIBUTION OF ANNUAL ALLOTMENTS TO UNITS AND ACTIVITIES OF PICK-SLOAN MISSOURI BASIN PROGRAM
Fiscal Years 1961 - 1978

Page 2 of 2

ACTIVITY UNIT AND DIVISION	EXPENDITURE 1961-1978	1976	1977	1977	1978	1979	TOTAL
INVESTIGATIONS 2/							
UPPER MISSOURI REGION							
Montana Units 2/	\$75,651,258	---	---	---	---	---	\$75,651,258
South Dakota Units 2/	5,924,278	---	---	---	---	---	5,924,278
Wyoming Units	6,185,744	---	---	---	---	---	6,185,744
North-South Dakota, Garrison Diversion	5,350,579	---	---	---	---	---	5,350,579
Basin Investigations	186,458	---	---	---	---	---	186,458
Subtotal, Investigations, UM Region	7,124,187	---	---	---	---	---	7,124,187
Subtotal, Investigations, UM Region	40,427,103	---	---	---	---	---	40,427,103
LOWER MISSOURI REGION							
Colorado Units	3,218,602	---	---	---	---	---	3,218,602
Kansas Units	2,210,113	---	---	---	---	---	2,210,113
Nebraska Units	7,657,878	---	---	---	---	---	7,657,878
Wyoming Units	1,757,698	---	---	---	---	---	1,757,698
Nebraska-Kansas, Bostwick	105,540	---	---	---	---	---	105,540
Wyoming-Nebraska, Glendo	73,789	---	---	---	---	---	73,789
Basin Investigations	19,870,738	---	---	---	---	---	19,870,738
Subtotal, Investigations, LM Region	25,844,329	---	---	---	---	---	25,844,329
Field Committee	1,686,683	---	---	---	---	---	1,686,683
Participating Agencies 2/ 3/	80,794,371	---	---	---	---	---	80,794,371
Total, Investigations	156,667,194	---	---	---	---	---	156,667,194
ADVANCE PLANNING							
UPPER MISSOURI REGION							
Canyon Ferry, Helena-Great Falls, Montana	385,000	---	---	---	---	---	385,000
Crow Creek Pump, Three Forks, Montana	161,523	---	---	---	---	---	161,523
East Bench, Three Forks, Montana	651,505	---	---	---	---	---	651,505
Fort Clark, North Dakota Pumping, North Dakota	60,679	---	---	---	---	---	60,679
Garrison Diversion, Garrison, W. & So. Dakota	6,007,961	---	---	---	---	---	6,007,961
Hanover-Bluff, Bighorn Basin, Wyoming	209,199	---	---	---	---	---	209,199
Helena Valley, Helena-Great Falls, Montana	273,288	---	---	---	---	---	273,288
Jonestown, Garrison Diversion, North Dakota	396,746	---	---	---	---	---	396,746
Lower Marias, Marias, Montana	2,608,090	---	---	---	---	---	2,608,090
Deke, James, South Dakota	9,073,472	---	---	---	---	---	9,073,472
Del Creek, Bighorn Basin, Wyoming	719,121	---	---	---	---	---	719,121
Pollock-Herrell, So. Dak. Pumping, So. Dakota	0	---	---	100,000	499,606	\$249,243	848,848
Rapid Valley, Cheyenne, South Dakota	532,931	---	---	---	---	---	532,931
Shadehill, Grand, South Dakota	163,000	---	---	---	---	---	163,000
Shoshone Extm. Unit, Pollock Bench Area, Wyo.	0	---	---	57,500	300,000	299,039	756,539
Yellowtail, Lower Bighorn, Montana-Wyoming	2,354,370	---	---	---	---	---	2,354,370
Subtotal, Upper Missouri Region	22,546,885	---	---	157,500	799,606	648,282	24,152,272
LOWER MISSOURI REGION							
Albany, Sandhills, Nebraska	136,974	---	---	---	---	---	136,974
Albany, Kansas, Kansas	217,325	---	---	---	---	---	217,325
Bostwick, Nebraska-Kansas	736,831	---	---	---	---	---	736,831
Cedar Bluff, Smoky Hill, Kansas	113,384	---	---	---	---	---	113,384
Farwell, Middle Loup, Nebraska	1,693,474	---	---	---	---	---	1,693,474
Frenchman-Cambridge, Nebraska	250,000	---	---	---	---	---	250,000
Glendale, Solomon, Kansas	843,576	---	---	---	---	---	843,576
Glendo, Oregon Trail, Wyoming-Nebraska	818,795	---	---	---	---	---	818,795
Kiowa, Solomon, Kansas	293,580	---	---	---	---	---	293,580
Harrows, South Platte, Colorado	352,021	---	---	---	---	---	352,021
Nebraska Mid-State, Nebraska	2,286,085	---	---	---	---	---	2,286,085
North Loup, Nebraska	365,352	---	---	---	---	---	365,352
O'Neill, Lower Missouri, Nebraska	729,070	---	---	---	---	---	729,070
Sargent, Middle Loup, Nebraska	1,254,866	---	---	---	---	---	1,254,866
Subtotal, Lower Missouri Region	9,791,933	173,811	---	---	---	---	9,965,744
Total, Advance Planning	32,338,818	173,811	---	150,498	798,331	648,282	34,109,740
OPERATION & MAINTENANCE							
UPPER MISSOURI REGION	157,086,539	16,804,000	94,745,000	16,873,000	2,947,500	2,594,600	150,252,639
LOWER MISSOURI REGION	96,786,408	9,908,000	1,814,000	11,672,000	3,973,333	3,971,000	121,784,742
Total, Operation & Maintenance	197,872,948	26,712,000	6,559,000	27,745,000	6,920,833	6,565,600	271,977,381
SUPPORT							
Construction	1,095,004,759	94,987,082	19,573,000	74,678,704	42,069,747	10,176,332	1,201,500,634
Rehabilitation	2/ 4,332,199	---	---	275,000	699,206	699,563	5,995,968
Advance Planning	32,338,818	173,811	---	150,498	798,331	648,282	34,109,740
Investigations	156,667,194	---	---	---	---	---	156,667,194
Operation and Maintenance	197,872,948	26,712,000	6,559,000	27,745,000	6,920,833	6,565,600	271,977,381
Emergency Fund	2,589,207	---	---	---	---	---	2,589,207
GRAND TOTAL, Pick-Sloan MB Program	5/ 1,491,806,417	83,482,725	26,132,000	103,449,053	50,487,305	18,079,829	1,773,436,320

1/ Units units for which construction funds were made available and subsequently withdrawn.

2/ Riverfront Project reauthorized as a unit of Pick-Sloan Missouri Basin Program, September 25, 1970.

3/ Includes 1946-1947 appropriation for "surveys, preconstruction work and investigations," prior to deduction of lapses. Effective 1972, Pick-Sloan

Investigations are in regular projects and participating agencies funds are appropriated directly to these agencies. Original Riverfront project

Investigations (\$45,979) have been transferred to the Pick-Sloan Program.

4/ Includes allotments under HCU Act to Angostura, South Dakota (\$43,809) and to Saco Divide, Montana (\$2,478).

5/ Does not include appropriations made directly to Participating Agencies for work in the Missouri River Basin, or direct transfers under the Economy Act.

6/ Net of rescissions by Act of Congress.

Ends 358
MBR - 5/15/79
12/31/80

EXHIBIT D

Handout For
GREAT SIOUX NATION CONFERENCE

Sioux Falls, South Dakota
July 29, 30, 1981

Prepared By
Bureau of Reclamation
South Dakota Reclamation Office
Huron, South Dakota

Role of the Bureau of Reclamation
United States Department of the Interior

The Nation's principal conservation agency, the Department of the Interior, has responsibility for most of our nationally-owned public lands and natural resources. These responsibilities include fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environment and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our mineral resources and works to assure that their development is in the best interests of the Nation. The Department also has a major responsibility for American Indian reservation communities and for people who live on Island Territories under United States administration.

The Assistant Secretary, Land and Water Resources, is responsible for Secretarial direction and supervision of the Office of Water Research and Technology, the Bureau of Land Management, and the Bureau of Reclamation. These responsibilities include programs associated with public land management; construction and operation of multipurpose dams and water distribution facilities; specified Reclamation hydroelectric power projects, conversion of saline water and water resources research; and emergency preparedness water resources functions.

The Bureau of Reclamation had its inception in the Reclamation Act of 1902. This remains the basic legislative authority vesting the Secretary of the Interior with responsibility for planning, design, construction, and operation and maintenance of water resource developments in the 17 western states.

Early projects were constructed for the purpose of bringing irrigation water to the arid and semiarid lands of the West in order to settle the land and establish farms. It was soon realized that single-purpose reservoirs produced multiple-purpose benefits. People used the reservoirs for recreation. Flood storage built into the reservoir to protect the dam also provided

flood protection for downstream areas. Demands for water for municipalities and industrial uses and the need for hydroelectric power added additional impetus for the construction of multiple-purpose projects. The Reclamation Act of 1902 was broadened in 1939 and by

the Flood Control Act of 1944 to provide for the planning and cost allocation to multiple functions.

The State of South Dakota is in the operational area of the Upper Missouri Region of the Bureau of Reclamation, which is essentially that portion of the Missouri River drainage area upstream from Sioux City, Iowa. The Upper Missouri Region also includes Montana east of the Continental Divide, North Dakota, and the northern portion of Wyoming. Headquarters for the Region are located in Billings, Montana; the South Dakota office is in Huron and is presently being moved to Pierre.

Since 1944, all Reclamation construction in South Dakota has been performed under the Pick-Sloan Missouri Basin Program, which is the result of separate plans proposed by the Corps of Engineers and the Bureau of Reclamation for development of the Missouri River Basin. The two plans were modified and combined by the Flood Control Act of 1944 into the Missouri River Basin Project, which was renamed the Pick-Sloan Missouri Basin Program (P-S MBP) in 1970 by Congressional Act.

Under this authority, the Corps completed construction of six dams and reservoirs on the main stem of the Missouri River. These reservoirs include Fort Peck, which was constructed prior to the Act although operation was integrated in the Missouri River Basin Project. The other Corps dams are Garrison in North Dakota, and Oahe, Big Bend, Fort Randall, and Gavins Point in South Dakota. The Corps was given the responsibility for determining reservoir capacities for flood control and navigation, and Reclamation was made responsible for determining storage needs for irrigation and the probable extent of future irrigation.

The P-S MBP has been under construction since its authorization by the Flood Control Act of 1944. It is a single financial entity which encompasses a comprehensive program of flood control, navigation improvement, irrigation, municipal and industrial water development, and hydroelectric production for the entire Missouri River Basin. During the inception of the P-S MBP, recreation and fish and wildlife were considered as incidental benefits. However, some years later, recreation and fish and wildlife began to be recognized as important functions by Congress and are now being considered in the development of the individual units of the P-S MBP.

Power and irrigation are inseparable partners in the total financial plan because of the multiple-use concept. Irrigation, municipal and industrial water, and power are the only functions requiring total repayment. Some portions of fish and wildlife enhancement and recreation are specified by law to be reimbursable. The sale of power provides assistance to irrigation investment where irrigators have a limited ability to repay. Irrigation has a preference in water use according to Reclamation Law. In addition, development of irrigation offsets losses of land and land revenue acquired for reservoirs and other project features.

Reclamation projects are unique among the Nation's public works in that 85 percent of the capital costs are returned to the Federal Treasury by the direct beneficiaries through water service repayment and power sales. Nationally, increased business activity, resulting from Bureau of Reclamation developed projects, adds about \$2 billion per year in tax revenues to the Federal Treasury and approximately \$1 billion to local and State governments. The entire capital costs of projects constructed throughout the 17 western states during the last 77 years are about \$8 billion.

To date, Reclamation has constructed 6 projects in South Dakota beginning with the Belle Fourche and Rapid Valley Projects, which were authorized during the period 1903-1939. Assured stability of agriculture in irrigated areas has resulted in development of solid, stable communities with substantial economic growth in a quality environment.

Cumulative value of crops produced on Reclamation projects in South Dakota through 1979 amounted to about \$190,640,000. In addition, sales of live-stock and livestock products from Reclamation projects have made an important contribution to the income from agriculture in South Dakota. Irrigation has a beneficial impact on manufacturing industries that are based upon agricultural raw materials.

For further information about any of the programs discussed in this handout or about the Reclamation's program in general, contact Lloyd Porter, South Dakota Reclamation Representative, 352-8651, Ext. 242, 200 4th Street S.W., Huron, South Dakota 57350, or the Upper Missouri Region Planning Office, 406-657-6247, P.O. Box 2553, Billings, Montana 59103.

THE BUREAU OF RECLAMATION PLANNING PROGRAM

The planning program of the Bureau of Reclamation is geared to study development and conservation of water and associated land resources to provide benefits such as water for irrigation, municipal and industrial water supply, hydropower generation, recreation, fish and wildlife development, and other purposes.

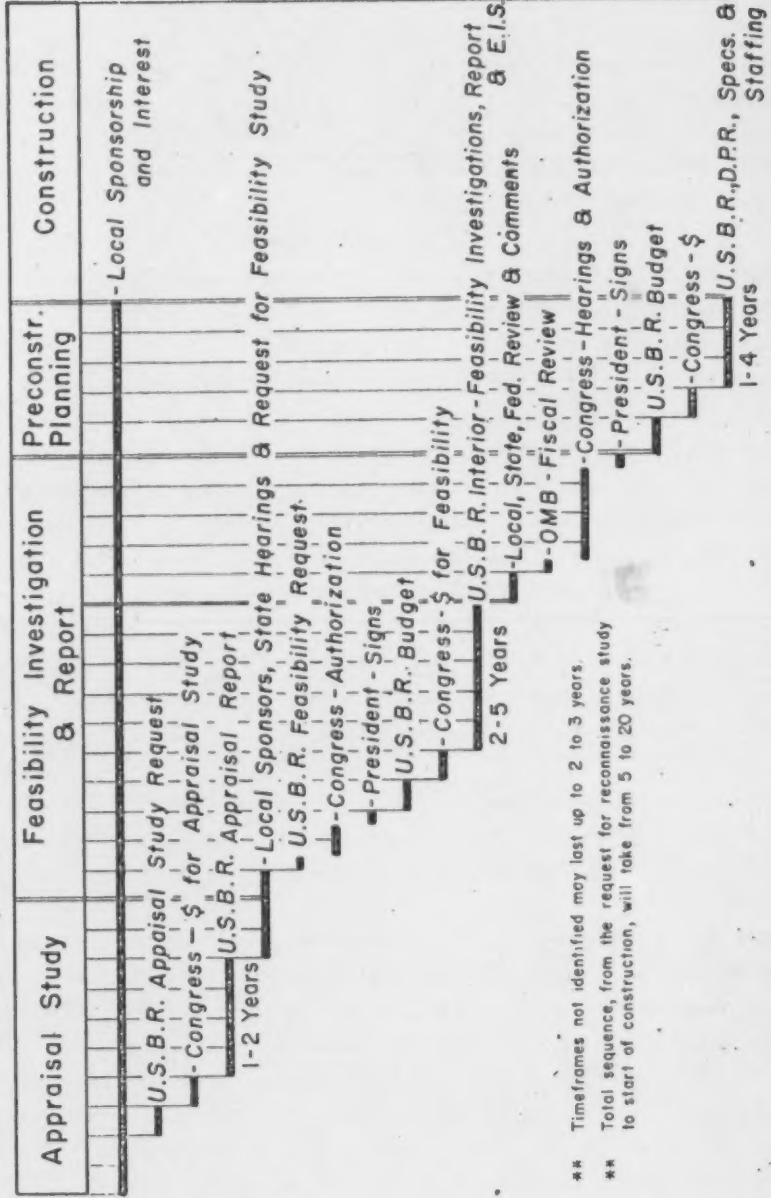
Engineering, economic, soils, subsurface drainage, and environmental studies are conducted under the General Investigations program to determine favorability of potential and proposed Federal Water and Power projects. The planning process also studies water conservation and development plans and other activities preliminary to new construction or rehabilitation and betterment, financial adjustment, or extension of existing projects. In addition, planning assistance for water and related land resources is available to the States. This can include providing information to States for use in preparation of water plans, providing assistance in preparation of States' plans, and preparing companion Federal plans. Reclamation can also provide assistance in studying and applying new standards and procedures for evaluating water resource development benefits and for project formulation. Expenditures prior to authorization of a new project are nonreimbursable in most cases and need not be repaid by project users.

General Investigation programs are usually identified from previous studies of an area and are requested through Congress by a group of citizens represented by a water user entity, city, Indian tribe, or State.

Investigations begin as a 1- to 3-year appraisal study (reconnaissance grade) in which a river basin, specific region, or single project-type study area will have its water-related problems and needs identified, its resource capability to meet needs assessed, and plans formulated to best utilize its resources in meeting present and future needs. Participation by water user groups, the public, the State, and other Federal agencies is required. The appraisal study results in recommended action, including whether a feasibility investigation for Federal project development is warranted.

TYPICAL PRECONSTRUCTION SEQUENCE

FOR
U.S. BUREAU OF RECLAMATION



A feasibility study, usually lasting 2 or 3 years, may be proposed by Reclamation or other local interest. The study must be both authorized and funded by the Congress. Participation with the study planning team and sustained local support by the future beneficiaries of the project is necessary. If feasibility study findings are favorable from an engineering, economic, and environmental standpoint, the proposal may be recommended to the Congress for authorization for construction. The report and environmental statement for the proposal require an extensive review process involving the States, other Federal agencies, and the public before presentation to the Congress. The process from beginning of investigation to authorization of construction will take from 3 to 10 years or more.

Once authorized, construction funds are programmed for appropriation by the Congress. Again, full support of the State and other local beneficiaries is required.

Reclamation Investigations
Directly Involving
South Dakota Indian Reservations

SISSETON INDIAN RESERVATION

Appraisal Report on Eastern South Dakota Basins, November 1973
(Rev. August 1975)
(Inventory of land suitability for irrigation.)

FLANDREAU INDIAN RESERVATION

(Reconnaissance) Report on Big Sioux Basin and Missouri Terrace Area, January 1968
(Inventories irrigation potential of bottom land.)
(Terraces along the Big Sioux River and assesses present and future.)
(Municipal and industrial water needs of the basin.)

Appraisal Report on Eastern South Dakota Basins, November 1973
(Rev. August 1975)
(Inventory of land suitability for irrigation.)

YANKTON INDIAN RESERVATION

Report on Missouri River Investigations (Report No. 66), Section II, February 1942

(Included proposed gravity irrigation development of the 2,130 acre Tower Unit and the 4,210 acre Greenwood Unit.)

Conservation, Control, and Use of Water Resources of the Missouri River Basin, Senate Document (S.D.) 191, April 1944
(Includes same proposed developments as above.)

Reconnaissance Report on South Dakota Pumping Division, April 1959
(Includes proposed gravity irrigation development of a 24,800 acre Wagner Unit, a 1,980 acre Tower Unit, and a 4,930 acre Greenwood Unit.)

Definite Plan Report on Tower, Greenwood, and Yankton Units, March 1964

(Present final preconstruction plans for a 1,400 acre Tower Unit and a 3,550 acre Greenwood Unit.)

Feasibility Report on Wagner Unit, March 1966
(Never officially released.)

(Proposes gravity irrigation development of a 19,500 acre Wagner Unit.)

Appraisal Report on Eastern South Dakota Basins, November 1973
(Rev. August 1975)
(Inventory of land suitability for irrigation.)

Feasibility Study on Lower James-Fort Randall Water Diversion Proposal (This study is presently underway with a scheduled completion in 1983)
(Yankton Sioux Tribe has elected not to participate in this study.)

CROW CREEK INDIAN RESERVATION

Report on Missouri River Investigations (Report No. 66), Section II, February 1942

(Included proposed gravity irrigation of a 6,560 acre Joe Creek Unit, a 6,600 acre Culdesac Unit, and a 7,710 acre Ft. Thompson Unit.)

Conservation, Control, and Use of Water Resources of the Missouri River Basin, Senate Document (S.D.) 191, April 1944

(Includes same proposed developments as above.)

Reconnaissance Report on South Dakota Pumping Division, April 1959

(Includes proposed gravity irrigation development of a 4,420 acre Joe Creek Unit, a 5,444 acre Culdesac Unit, a 7,480 acre Fort Thompson Unit, and a 1,136 Fort Hale Unit.)

Feasibility Report on Fort Thompson and Grass Rope Unit, June 1960
(Never officially released.)

(Proposed gravity irrigation development of a 5,900 acre Fort Thompson Unit.)

Appraisal Report on Eastern South Dakota Basins, November 1973
(Rev. August 1975)

(Inventory of land suitability for irrigation.)

Feasibility Study on Lower James-Fort Randall Water Diversion Proposal (This study is presently underway with a scheduled completion in 1983.)

(Crow Creek Sioux Tribe has elected not to participate in this study.)

Appraisal Study on the Crow Creek Indian Reservation Area (This 3-year study has been requested by the Crow Creek Sioux Tribe and is planned to start in October 1981.)

LOWER BRULE INDIAN RESERVATION

Report on Missouri River Investigations (Report No. 66) Section II, February 1942

(Included proposed gravity irrigation of a 2,720 acre LaRoche Unit, a 1,850 acre Red Cloud [aka Iron Nation] Unit, a 8,500 acre Big Bend [aka Grass Rope] Unit, and a 2,100 acre Fort Hale Unit.)

Conservation, Control, and Use of Water Resources in the Missouri River Basin, Senate Document (S.D.) 191, April 1944
(Includes same proposed developments as above.)

Reconnaissance Report on South Dakota Pumping Division, April 1959
(Includes gravity irrigation development of a 1,789 acre LaRoche Unit, a 1,739 acre Iron Nation Unit, and a 4,340 acre Grass Rope Unit.)

Feasibility Report on Fort Thompson and Grass Rope Units, June 1960
(Never officially released.)
(Proposed a gravity irrigation development of 4,100 acres.)

Feasibility Report on Grass Rope Unit, April 1980
(Presently being processed for official release, authorization, and construction.)
(Proposes construction of a 3,940 acre sprinkler irrigation development.)

Appraisal Study on Lower Brule Indian Reservation Area (Study being done for the Lower Brule Sioux Tribe is currently underway with a scheduled completion in 1982.)

ROSEBUD INDIAN RESERVATION

Survey Report on White River Basin, December 1942
(Includes proposed gravity irrigation development of a 42,000 acre White River Unit, and a 17,000 acre Little White Unit.)

Report on Missouri River Investigations (Report No. 66), Section II, February 1942

(Includes proposed gravity irrigation development of a 1,190 acre Whetstone Unit, a 640 acre Martha's Island Unit, and a 900 acre Fort Randall aka Crazy Horse Unit.)

Conservation, Control, and Use of Water Resources of the Missouri River Basin, Senate Document (S.D.) 191, April 1944
(Includes only the 900 Fort Randall Unit from above proposals. Also includes proposed White River Unit cited above.)

Reconnaissance Reappraisal Report on White Division, August 1960
(Reports findings on investigation of White River Unit with a 42,000 acre gravity development served by Rockyford Dam Site and with a 29,500 acre gravity development served by Weta Dam Site.)

Report on Soil-and-Water Relationship of the Little White Unit, 1965
(Reports findings on gravity irrigation developments for a 12,000 acre project served from Weta Dam Site and a 6,600 project served from Little White Dam Site.)

PINE RIDGE INDIAN RESERVATIONSurvey Report on White River Basin, December 1942

(Includes proposed gravity irrigation development of a 13,300 acre development served from Slim Butte Schoolhouse Site and a 42,000 acre development served by Rockyford Dam Site.)

Conservation, Control, and Use of Water Resources of the Missouri River Basin, Senate Document (S.D.) 191, April 1944

(Includes only the White River Unit served by Rockyford Dam Site.)

Reconnaissance Reappraisal Report on White Division, August 1960

(Proposes gravity irrigation development of the 12,712 acre Pine Ridge Unit served from the Slim Butte Dam Site. A 42,000 acre development served by Rockyford Dam Site and a 29,500 acre development served by Weta Dam Site were also evaluated.)

Feasibility Report on Pine Ridge Unit, September 1968

(Proposes gravity irrigation development of a 6,940 acre Unit served by Slim Butte Dam and Reservoir. NOTE: This Unit should have a reformulation study before being considered for construction.

CHEYENNE RIVER INDIAN RESERVATIONSurvey Report on Moreau River Basin, October 1942

(Proposes gravity irrigation development of 13,480 acre Bixby Unit served by Bixby Dam Site and 13,670 acre Green Grass Unit served by Green Grass Dam Site.)

Survey Report on Cheyenne River Basin, October 1943

(Includes proposed gravity irrigation development of 25,348 acres served by natural flows and return flows from Angostura Gravity Unit. This development is known as Cheyenne River Pumping Units.)

Conservation, Control, and Use of Water Resources of the Missouri River Basin, Senate Document (S.D.) 191, April 1944

(Includes developments listed above for Cheyenne and Moreau Basins. Bixby and Green Grass Units were combined under the name Moreau River Unit.)

Definite Plan Report on Bixby Unit, October 1950

(Recommends construction of a 11,000 acre gravity irrigated Bixby Unit.)

Reconnaissance Reappraisal Report on Cheyenne Division, January 1964
(Evaluates a 3,910 acre gravity irrigation development for Cheyenne Pumping Units.)

Report on 1974 Drought, Cheyenne River Indian Reservation, November 1976 (Not officially released.)
(Still awaiting review comments and recommended action from Commissioner of Indian Affairs.)
(Evaluates resources that might be addressed in proposed future study to improve and stabilize rural-domestic and stockwater supplies.)

STANDING ROCK INDIAN RESERVATION

Survey Report on Grand River Basin, May 1942
(Includes proposed gravity irrigation development of a 13,180 acre Shadehill Unit and a 16,500 acre Blue Horse Unit.)

Conservation, Control, and Use of Water Resources of the Missouri River Basin, Senate Document (S.D.) 191, April 1944
(Included proposed Shadehill and Blue Horse [aka Grand River Unit] Units as cited above.)

Definite Plan Report on Shadehill Unit, January 1964
(Construction of Shadehill Dam had been completed in 1951. Report proposes construction of gravity irrigation water delivery works to serve 6,700 acres, none of which were Indian lands.)

NOTE: Information on investigations in the Cannonball River Basin and the Missouri River Mainstem Basin in North Dakota will have to be obtained from our Missouri-Souris Projects Office, Bismarck, North Dakota.

FOR ADDITIONAL INFORMATION OR COPIES OF REPORTS, CONTACT:

Bureau of Reclamation
Huron Federal Building
200 4th Street, S.W.
Huron, South Dakota 57350
Phone: (605) 352-8651, ext. 242
(FTS) 782-2242

Federal Water Resource Developments for Indian Tribes

DEFINITION:

As used in this discussion, a Federal Indian Water Resource Development would be a project of significant size constructed by the Bureau of Indian Affairs (BIA), Corps of Engineers (USCE), or the Bureau of Reclamation (USBR). These projects must have congressional authorization prior to construction. Projects built with grants and/or loans from Federal agencies are not considered Federal projects. Federal projects may be single-purpose (i.e., Grass Rope Unit is a single-purpose sprinkler irrigation project) or multiple-purpose (i.e., any combination of irrigation, hydroelectric generation, municipal and industrial and/or rural-domestic water supply, flood control, recreation, and fish and wildlife development purposes). All supporting studies for Federal Indian water projects must meet criteria contained in the "Principles and Standards" established by the Water Resources Council.

TYPES OF CONGRESSIONAL AUTHORITY:

There are two recognized types of congressional authorities for Indian water development projects.

1. Pick-Sloan Missouri Basin Program (P-S MBP)

This program was authorized by the Flood Control Act of 1944 (P.L. 78-534) and the Flood Control Act of 1946 (P.L. 79-526). Projects may be constructed as a part of this program by the BIA, USCE, or USBR. Public Law 88-442, of August 14, 1964, requires reauthorization of all Units that were not in operation or under construction on that date.

2. Snyder Act of November 2, 1921 (42 Stat. 208)

This is a continuous authority for the BIA to construct water supply works for Indians. (See attachments.)

LEAVITT ACT of July 1, 1932:

This act indefinitely defers collection of annual construction cost repayments for government (Federal) irrigation projects on Indian owned

(fee and trust) land. (Construction costs are held as a lien on the land to be repaid when the lands pass out of Indian ownership.) Annual project operation and maintenance costs do have to be paid by Indian lands served. (See attachments.)

INDIAN PROJECTS IN PICK-SLOAN MISSOURI BASIN PROGRAM (P-S MBP):

1. Projects may be BIA, USCE, or USBR sponsored.
2. Each project must be specifically authorized by Congress.
3. Major Advantages: P-S MBP irrigation projects are provided a subsidy in the form of an extremely cheap electrical power rate of 2.5 miles per kwh for electrical energy required to pump irrigation water from its source to the high point of project lands to be served.

Indian irrigation projects in P-S MBP have the additional advantage of being planned, constructed, and operated under Indian law rather than "Reclamation" law. (See attached Section 9c of the Flood Control Act of 1944.) The most obvious advantage this provides is that the 160-acre limitation for individuals and corporations does not apply to Indian Projects. Most USBR developments are planned to have a 100-year project life.

4. Major disadvantages: Federal water project development is a very slow process over a number of years from start of appraisal studies through completion of construction.

Federal water projects are required to replace fish and wildlife habitat values lost as a result of project development. This usually involves commitment of land and/or water resources for the specific purpose of management for habitat.

INDIAN PROJECTS UNDER SNYDER ACT:

1. Projects must be sponsored by BIA.
2. Specific authorization by Congress is not necessary.
3. Irrigation projects under this authority do not receive the preferential P-S MBP power rate of 2.5 miles per kwh. They must pay the going commercial rate.

4. Total development time will probably be less than P-S MDP projects but still greater than by private development.
5. Project development associated fish and wildlife habitat losses must still be replaced.

USBR SERVICES AVAILABLE TO INDIAN TRIBES:

1. Investigations: We can provide comprehensive, long-range water resource development planning for a region, river basin, reservation, or local area. All planning done for Federal project development will meet Current Federal statutory and regulatory requirements such as those established by the Water Resources Planning Act (includes Water Resources Council's "Principles and Standards"), National Environmental Policy Act, National Historic Preservation Act, and the Fish and Wildlife Coordination Act.

USBR studies may be conducted under Bureau or other criteria specified by a Tribe or by the BIA. However, USBR criteria must be used if sponsorship and construction as a USBR project is desired. Studies may be conducted under dual (USBR and Tribal) criteria to expand the range of development options if so desired.

USBR investigations may be funded in the following ways;

- A. USBR Funding: Tribe passes a resolution requesting Congress to fund USBR for desired study. If this is done properly, there are no costs to the tribe.
- B. BIA Funding: Tribe has BIA request study and transfer funds to USBR. In this case, the USBR functions as a consultant to the BIA.
- C. Tribal Funding: Tribe contracts for study and provides funds to USBR. In this case, USBR acts as a consultant to the tribe.

NOTE: No matter how funded, sustained tribal support and participation as a full-fledged planning team partner would be necessary for successful planning efforts.

2. Construction: USBR can construct either USBR sponsored projects or BIA sponsored projects under a memorandum of agreement.
3. Technical Expertise: Within existing personnel and funding constraints, technical expertise can be made available on a short-term basis in such areas as engineering, hydrology, soils, drainage, irrigation management, and general water resources planning.

HOW TO REQUEST USBR SERVICES:

Requesting Bureau services can sometimes be simple, yet tricky. Assistance can be provided to a tribe so as to insure:

1. Costs to the tribe are totally avoided or minimized when required;
2. Tribe gets exactly what it wants from USBR; and
3. USBR has study request in a form that allows it the greatest freedom in achieving tribal desires.

For assistance in requesting USBR service, contact:

Bureau of Reclamation
Huron Federal Building
200 4th Street S.W.
Huron, South Dakota 57350
Phone: (605) 352-8651, ext. 242
(FTS) 782-2242

Attachments

Snyder Act

Leavitt Act

Page containing Section 9c of the
Flood Control Act of 1944

For irrigation project, ceded lands, Wind River Reservation, Wyoming (reimbursable), 1921, \$427.36.

Approved, August 24, 1921.

*Snyder
act*

November 2, 1921.
[H. R. 7845]
62 Stat., 258.

CHAP. 115.—An Act Authorizing appropriations and expenditures for the administration of Indian affairs, and for other purposes.

Indian Department.
Authorization of
expenditures at present
figures.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Bureau of Indian Affairs, under the supervision of the Secretary of the Interior, shall direct, supervise, and expend such moneys as Congress may from time to time appropriate, for the benefit, care, and assistance of the Indians throughout the United States for the following purposes:

General support and civilization, including education.

For relief of distress and conservation of health.

For industrial assistance and advancement and general administration of Indian property.

For extension, improvement, operation, and maintenance of existing Indian irrigation systems and for development of water supplies.

For the enlargement, extension, improvement, and repair of the buildings and grounds of existing plants and projects.

For the employment of inspectors, supervisors, superintendents, clerks, field matrons, farmers, physicians, Indian police, Indian judges, and other employees.

For the suppression of traffic in intoxicating liquor and deleterious drugs.

For the purchase of horse-drawn and motor-propelled passenger-carrying vehicles for official use.

And for general and incidental expenses in connection with the administration of Indian affairs.

Approved, November 2, 1921.

November 19, 1921.
[H. R. 7861]
62 Stat., 251.

CHAP. 133.—An Act Authorizing a per capita payment to the Chippewa Indians of Minnesota from their tribal funds held in trust by the United States.

Chippewa Indians in
Minnesota.
Per capita payment
from tribal funds to en-
rolled members.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Interior be, and he is hereby, authorized to withdraw from the Treasury of the United States so much as may be necessary of the principal fund on deposit to the credit of the Chippewa Indians in the State of Minnesota, arising under section 7 of the act of January 14, 1889 (Twenty-fifth Statutes at Large, page 642), entitled "An Act for the relief and civilization of the Chippewa Indians in the State of Minnesota," and to make therefrom a per capita payment, or distribution, of \$100 to each enrolled member of the tribe, under such rules and regulations as the said Secretary may prescribe: *Provided*, That the money paid to the Indians as authorized therein, shall not be subject to any lien or claim of attorneys or other parties; *Provided*, That before any payment is made hereunder the Chippewa Indians of Minnesota shall, in such manner as may be prescribed by the Secretary of the Interior, ratify the provisions of this act and accept the same.

Approved, November 19, 1921.

Proviso.
Free from all liens.

Tribal distribution re-
quired.

42 Stat., 208

July 1, 1932

July 1, 1932

LEAVITT ACT

Act of June 13, 1962, 76 Stat. 96, specifically states that section 4(d) of the 1956 Act applies to the Navajo Indian Irrigation project does not preclude application of section 4(d) to the San Juan-Chama project. Memorandum of Acting Associate Editor Lansing, July 31, 1964.

July 1, 1932

July 1, 1932

LEAVITT ACT

Act of June 13, 1962, 76 Stat. 96, specifically states that section 4(d) of the 1956 Act applies to the Navajo Indian Irrigation project does not preclude application of section 4(d) to the San Juan-Chama project. Memorandum of Acting Associate Editor Lansing, July 31, 1964.

LEAVITT ACT

An act to authorize the Secretary of the Interior to adjust reimbursable debts of Indians and tribes of Indiana. (Act of July 1, 1932, ch. 369, 47 Stat. 364)

[Indians—Adjustment of reimbursable debts—Deferment of irrigation construction charges—Report to Congress—Approval of Congress.]—The Secretary of the Interior is hereby authorized and directed to adjust or eliminate reimbursable charges of the Government of the United States existing as debts against individual Indians or tribes of Indiana in such a way as shall be equitable and just in consideration of all the circumstances under which such charges were made: *Provided*, That the collection of all construction costs against any Indian owned lands within any Government irrigation project is hereby deferred, and no assessments shall be made on behalf of such charges against such lands until the Indian title thereto shall have been extinguished, and any construction assessments heretofore levied against such lands in accordance with the provisions of the Act of February 14, 1920 (41 Stat. L. 409), and uncollected, are hereby canceled: *Provided further*, That a report shall be made to Congress annually, on the first Monday in December, showing adjustments so made during the preceding fiscal year: *Provided further*, That any proceedings hereunder shall not be effective until approved by Congress unless Congress shall have failed to act favorably or unfavorably thereon by concurrent resolution within sixty legislative days after the filing of said report, in which case they shall become effective at the termination of the said sixty legislative days. (47 Stat. 364; 25 U.S.C. § 386a)

EXPLANATORY NOTES

Reference in the Text. The Act of February 14, 1920 (41 Stat. L. 409), referred to in the text, is the Bureau of Indian Affairs Appropriation Act for the fiscal year ending June 30, 1921. It included provisions for the reimbursement of Indian reservations, which appropriations were to be reimbursed to the Government. Cross Reference. Philip Act. The Act of May 9, 1924, 43 Stat. 116, popularly known as the Philip Act, is an act for the relief of Indian water users. The Act appears herein in chronological order. Legislative History. H.R. 10884, Public Law 240 in the 72nd Congress, H.R. Rept. No. 951, S. Rept. No. 752. H.R. Rept. No. 1725 (conference report).

NOTES OF ORIGIN

1. Application. The reference in the first proviso to any "Government irrigation project" should be construed as applying only to Government owned irrigation projects, and does not include reclamation projects. Solicitor Finney Opinion, 54 I.D. 90 (1932). The provision in subsection 9(c) of the Flood Control Act of 1916 that irrigation projects authorized by that Act and approved therefor shall be in accordance with the laws relating to Indian lands," extends the Leavitt Act to all such Indian lands irrigated under the Flood Control Act project. Memorandum of Associate Solicitor Hogan, June 25, 1964, in re definite plan report for Tower, Greenwood, and Yankton units. Section 4(d) of the Colorado River Storage Project Act extends the Leavitt Act to all irrigation projects authorized by that Act and approved therefor. The Act therefore applies to Pueblo Indian lands in the Middle Rio Grande Conservancy District served by the San Juan-Chama project, and the fact that section 2 of the

107

the Act of June 28, 1938, as modified by the Act of June 28, 1940, to include the works referred to in paragraph 1 of the said Act of 1938, Department; and said expanded plan of the said Department, approved by the Secretary of War and supervision

3. Power operations

It is section 9, not section 5, of the Flood Control Act of 1944 that governs the marketing of power from the Missouri River Basin project, the repayment of project costs from power revenues, and other matters.

Joint Hearing Before the Senate Committee on Interior and Insular Affairs and Public Works, 85th Cong., 1st Sess., pt. 1, pp. 341-42 (1957). Accord: Letter of Administrative Assistant Secretary Beasley to Mr. A. T. Samuelson, General Accounting

Senator MURKOWSKI. Thank you very much, Mr. Ickes. We will proceed with the testimony of Clarence Skye.

**STATEMENT OF CLARENCE SKYE, EXECUTIVE DIRECTOR,
UNITED SIOUX TRIBES**

Mr. SKYE. Senator, I just have some brief comments. I am glad to welcome you to the State of South Dakota and Sioux country, and I am glad to see Senator Abdnor.

Senator ABDNOR. Thank you.

Mr. SKYE. One brief comment that in order for the Indian people or the Sioux people in the State of South Dakota that live on the reservation, in order for them to get off the Federal dollar and not be receiving Federal aid, they are going to have to have cheap power, at least 2½ mill kilowatt hour, in order to continue with the irrigation development, the water development along the Missouri River.

The tribes that live along the Missouri River, it's important to recognize and be cognizant of the fact that we are going to stay in the State, live in the State, and develop along with the farmers and ranches in this great country.

Thank you.

Senator MURKOWSKI. Thank you very much, Mr. Skye. We appreciate your testimony.

The next witness is Mr. Robert Philbrick. Mr. Philbrick, you may proceed.

STATEMENT OF ROBERT PHILBRICK, CROW CREEK SIOUX

Mr. PHILBRICK. Thank you, Mr. Chairman, and I want to express my appreciation for giving me this chance to talk before this panel. And I wanted to especially thank Senator Abdnor because I asked him if I could say something. And I might say something that might not be in line with what the Senator would like to do, but I have to say this because these are my own personal feelings. And I do represent a lot of Dakota people.

I have to correct the previous speakers. We are called Sioux, but our real identification is the Dakota. And I want to say this much, that we did lose a lot of land in the Pick-Sloan plan. And we were told—and I was still on the tribal government in those days when they were talking about damming all the river up—I seen it happen, and I heard the talks.

We were told that you Indian people are losing the good and better part of your reservation, even the whole entire town—Fort Thompson. But they said in the future, you are going to realize this because the Pick-Sloan plan identifies that you will benefit from these dams.

Now, up to now, the Crow Creek Dakota people have not realized anything. So today, I am going to inform the panel that I know that most of the Dakota people are under a treaty. And we always talk about the treaty, and I am sure many of the citizens of this State have talked—have heard about it. It's the treaty of 1868.

And we feel that this treaty, even though it has been broken many times, and I have been to Congress a few times to testify for bills. We

had two dams that were built on the reservation, one was the Randall Dam and the other was the Big Bend Dam. Now, they both affected the Crow Creek Tribe.

So, I would say that we lost, the Crow Creek people had lost close to 30,000 acres of their own land which was along the river. And we have never been able to get any water from the Missouri River, and I feel if we are going to work, if Congress is going to work for this, I would appreciate that.

But I feel that since we are a treaty tribe, that we have to tell the Secretary what we would like to do; and then the Secretary in return will tell Congress what the tribe wants. And that's the way I would like to do it, because I come here and sit here listening to a lot of needs across the State, and it's a lot different that we have.

They are being presented to the State of South Dakota, and I realize they have to do this because they are under the Governor. The Dakota Tribe is not under the Governor, and the Governor has already taken most of the tribe, the Dakota Tribes to court because of water rights.

And I feel that if the Governor and his staff, the attorney general, are going to take the Dakota Tribes, I don't feel like we are going to have very much of a chance to get any kind of water rights through the Government. So I am asking the panel to recognize our needs through the Secretary of Interior.

And if Senator Abdnor and this committee can help us, we will sure appreciate it. Thank you.

Senator MURKOWSKI. Thank you very much, Mr. Philbrick. We welcome your views and appreciate, certainly, your testimony.

We will proceed to the next witness, Carol Ann Heart. You may proceed.

STATEMENT OF CAROL ANN HEART, ROSEBUD SIOUX TRIBE

Mrs. HEART. My name is Carol Ann Heart, and I am the director of water resources for the Rosebud Sioux Tribe, and I am speaking on behalf of the Rosebud Sioux Tribe.

The bill that is being introduced here, S. 1553, talks about the Secretary of Interior having all the authority to administer the funding for this bill. And I think it should be emphasized here the fact that the Secretary of Interior has a trust responsibility to Indian tribes.

And I think a part of the problem with this is the conflict of interest that arises in all of these kinds of bills that are introduced, is that the Secretary of Interior has a trust responsibility for Indian tribes and also for the other agencies under their responsibility. And this creates a problem.

You know, we would like to have that, you know, for the record to show that this does create some problems for Indian tribes.

Also, Governor Bill Janklow made some comments recently about the Federal trust responsibility for Indian tribes, and they talked about the block grants that should go to the State. And I agree with his comment that the Federal Government does have a responsibility to Indian tribes.

And the Rosebud Sioux Tribe is at the point where when money was plentiful, we took advantage of that fact by having feasibility studies done on our reservation about water development. And we are at the

point now where we need the money to build the project and not for further feasibility studies.

And that's the only way that not only the Rosebud Sioux, but the other tribes will get off the ground is if we get the funds for projects, not to have more feasibility studies done on the reservations.

I think that the Indian tribes also have a unique situation here in that we have dual citizenship not only of the State of South Dakota but also of our tribal government. As citizens of South Dakota I think we are often ignored, especially in cases of this when we talk about water development.

Everyone is familiar with the case of *Winters* or the talk of the Winters Doctrine. The Winters Doctrine insures that Indian tribes have prior and paramount rights to water, and yet when anything comes up of this sort, Indian tribes are constantly ignored. And I think that's ignoring a Supreme Court case, and it's gotten to the point where even *Winters* has been diminished to the point where there is an attempt to limit the amount of water that Indian tribes have access to.

And if this is limited, then you are cutting off the lifeblood to Indian tribes because that's our only way of survival also.

And I would like to add a note of something positive here is that the Rosebud Sioux Tribe has formulated a water plan, and through this water plan, our first priority is the funding of the Rosebud rural water distribution system, which is a \$6 million project that has recently been completed by the firm of DeWild, Grant, and Reckert from Rock Rapids, Iowa.

And this project will provide not only water to the reservation but to two non-Indian communities off the reservation—Myrtle and White River. And through this project, we hope we will provide a good supply of dependable water to all the residents of our region, not only to the Indian people.

And I might add that we have three communities on our reservation that were without water this past summer, and water had to be hauled through water trucks to these communities. And this will alleviate that problem.

And another project that we are working on right now but is almost complete is the Little White River study, which would investigate the feasibility of constructing a dam on the Little White River for hydroelectric power and other associated uses.

So, in conclusion, I would like to say that we as a tribe are in full support of what Mr. Ickes said as far as the United Sioux Tribe. And we would also like to say that as citizens of the State of South Dakota, we support this bill, excluding the part that we discussed, and we hope that if it comes to the point where the Rosebud Sioux Tribe attempts to get a bill introduced in Congress to support our water projects, that the other citizens of the State of South Dakota will support our efforts.

Because the development of a water project on an Indian reservation will not only benefit the Indian people, but also all citizens of the State of South Dakota.

Thank you for listening to our comments.

Senator MURKOWSKI. Thank you for your testimony, Miss Heart. I think it's most appropriate you cited for the record the trust responsibility of the Secretary of the Interior.

I, too, represent a State with a large Indian population, approximately 20 percent of the State of Alaska. We, too, are working on behalf of the native people in our State concerning that very thing, the continuing trust responsibility of the Secretary of the Interior. So I very much appreciate your mentioning it.

Senator ABDNOR?

Senator ABDNOR. I would just like to say to Miss Heart that Owen Ambur has related the conversation he had with you, and I guess we have your plan, and we will be working with you. I assure you.

Senator MURKOWSKI. I believe Mr. Ickes would like to be recognized again to present a statement or introduce someone?

STATEMENT OF R. DENNIS ICKES, GENERAL COUNSEL, LOWER BRULE SIOUX TRIBE

Mr. ICKES. Yes, Mr. Chairman. I have also been asked to speak on behalf of the Lower Brule Sioux Tribe. With me today is the chairman of the Lower Brule Sioux Tribe, Mr. Orville Langdeau, who represents the 7-member council of that tribe.

The Lower Brule Sioux Tribe represents approximately 1,700 Indian citizens and also a quarter of a million acres of land. It's a small tribe in this State, a relative small acreage but with a very big ambition.

That big ambition is to develop 15,000 acres of irrigated land.

The Lower Brule Reservation lies right along the Missouri River. And they gave up over 22,000 acres of land to these Big Ben and Fort Randall Dam projects. They paid a big price, gave up their best land.

And again, like it was said in earlier statements, we would like to at last cash in on that sacrifice paid for the down river communities and States.

And earlier today you were invited by the Governor of this State to come back into the State and partake of the hunting and partake of the wildlife. I would like to also point out that the chairman has extended to you that only 14 or 18 miles away from this city, that the Lower Brule Reservation and it is teeming with wildlife, and we would like you as you enter this State to consider hunting on the reservation. We would take great pains to welcome you to the reservation.

Senator MURKOWSKI. I am pleased to accept.

Mr. ICKES. They have some of the best goose hunting in the world, I would say—I would submit, for this part of the reservation.

Senator ABDNOR. We will just keep him here.

Senator MURKOWSKI. I'll just plan to spend the fall out here.

Mr. ICKES. And we, too, acknowledge that the State of Alaska, of course, is well supplied, but this is much more convenient as you come through this great State.

But the Lower Brule Tribe is an ambitious tribe. Rather than waiting for the Federal Government to live up to the promises made in 1944, it has undertaken a self-help project to develop some of its own reservation land through various means.

And we want to acknowledge the aid of the Senators in assistance to them in acquiring moneys for the construction of their own project without the aid of Reclamation funds. And they have done so success-

fully. The project that they have partially completed is a very productive project and has yielded substantial benefits to the tribe.

However, they have a ways to go to develop the full 15,000-acre potential that it has, and this will become more likely to come to pass if cheap power is, in fact, made a reality. And cheap power makes it possible for them to remove the water from the reservoir that's adjacent to their reservation and move it onto the lands for producing abundant crops once it's supplied.

I would also like to call to the attention of the subcommittee the position being presently espoused by the administration's Solicitor, who has taken a position that it is not possible for any project to be built with private funds, no matter if it was this tribe or any tribe, to go around and take up a collection or whatever way it takes to build a project and qualify for Pick-Sloan power without going through the authorization process.

I am pleased that Senator Abdnor has made it very clear here to give incentive to self-help, to self-development, and this tribe falls within that category, and I am sure the Senator had them in mind when he inserted this provision. So we compliment the Senator for his responsiveness to the tribe, and I would ask the subcommittee to acknowledge the support of the Lower Brule Sioux Tribe for section 4, and we submit this for the record for your consideration.

Senator MURKOWSKI. Thank you very much, Mr. Ickes. Is that the end of your testimony?

Mr. ICKES. There is one other additional tribal chairman here today, Mr. Chairman, who is not present here at the table, but he is present in the room. It's Chairman Norman Wilson of the Rosebud Sioux Tribe. And Carol Ann Heart, whom you have heard from, is his representative here.

But we would like to have it acknowledged that he is present in the room today and constructively a part of this panel.

[The prepared statements of Mr. Ickes and Mr. Wilson follow:]

STATEMENT OF R. DENNIS ICKES
TO THE SUBCOMMITTEE ON
WATER AND POWER, COMMITTEE
ON ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE

ON BEHALF OF THE LOWER BRULE SIOUX TRIBE

Saturday, September 12, 1981
Pierre, South Dakota

STATEMENT OF R. DENNIS ICKES,
GENERAL COUNSEL, LOWER BRULE SIOUX TRIBE
CONCERNING S.1533, 97TH CONGRESS, FIRST SESSION

Mr. Chairman, and members of the Subcommittee, I am R. Dennis Ickes, general counsel to the Lower Brule Sioux Tribe. With me today is Orville Langdeau, the Chairman of the seven member Lower Brule Sioux Tribal Council. The Lower Brule Sioux Reservation is located along the mainstem of the Missouri River and consists of approximately 250,000 acres of farm and ranch lands which also support an attractive wildlife population consisting of deer, antelope, elk, buffalo, various water fowl, low land and upland game birds, and numerous species of fish. We extend to you an official invitation to visit the Reservation while you are here. The Reservation's nearest boundary is located as close as 18 miles from Pierre. We would be honored to have you and/or your staff as our guests.

The Lower Brule Sioux Tribe consists of approximately 1700 members of whom 1000 live on the Reservation 59% and 700 off the Reservation 41%. Opportunities for our people are presently severely limited to small farms and ranches, tribal government employment, federal government employment, tribal business enterprise employment and limited small business enterprises.

The unemployment rate on the Lower Brule Sioux Reservation is approximately 40% and the underemployment rate is approximately 60%. It is distressing for such a proud people as the Lower Brule to recite to you such discouraging statistics, but we came here today to tell you how it is on the Lower Brule Sioux Reservation and how S.1553 may help us change those statistics from depressing to encouraging and exciting.

The Lower Brule Sioux Reservation was carved out of the Great Sioux Reservation in 1889 and initially consisted of approximately 450,000 acres. Between 1889 and 1934 the Reservation's acreage on its Western flank was reduced by approximately 213,500 acres pursuant to various homestead acts. In 1955 and 1962, the National Government reduced a portion of the Tribe's interest in its best lands along the Missouri River by both judicially condemning approximately 8,000 acres for the Fort Randall Dam and Reservoir and legislatively condemning approximately 14,300 acres for the Big Bend Dam and Reservoir project. Thus, the National Government has taken approximately a quarter of a million acres of Lower Brule land since 1889 for various purposes and for the primary benefit of people living far from the Lower Brule Reservation. The homestead acts were meant to take Lower Brule lands to satisfy the land hunger of non-Indians living in the Eastern United States and in foreign countries. The allotment acts were apparently meant to take

lands to greater reduce Indian land holdings for the benefit of the non-Indian farmers and ranchers, and the dam and reservoir acts took Lower Brule lands to meet national proclaimed goals for clean and efficient electric power. Even though the Lower Brule were paid for the lost lands, they would have benefited far more from the continued productive use of such lands, especially from the river bottom lands whose soils were extremely productive. However, national wants overrode local needs on those occasions with the result that the Lower Brules were condemned into surrendering over half of their Reservation. Now the Lower Brules see S.1553 as an opportunity for the National Government to help them make more productive their remaining lands by providing cheap power for irrigation development.

Like most Indian tribes the Lower Brule Sioux have been the objects of many studies and investigations. Each study and report make the same conclusion that the Lower Brule suffer from serious chronic unemployment, underemployment and from a number of other serious social problems. The studies usually go on to conclude that something should be done. Often nothing is done. If something is done it usually consists of sending career bureaucrats to spend federal monies in ways that a far away bureaucracy determines appropriate for every Indian reservation in the United States.

Studies and investigations concerning irrigation of

Lower Brule lands is no exception. The Bureau of Reclamation pursuant to funding through the Bureau of Indian Affairs has conducted at least six major irrigation feasibility reports on the Lower Brule Reservation. At the time that the 1944 Flood Control Act was passed the Bureau of Reclamation recommended that four irrigation units be authorized for construction which would irrigate approximately 15,000 acres. Nearly 40 years later not a single Lower Brule acre has been irrigated by a federal reclamation project. The same can be said for the other Sioux reservations in South Dakota. There is presently pending before the Commissioner of the Bureau of Reclamation yet another recommendation that a 3500 acre project be authorized as the Grass Rope Unit. Estimated cost of construction according to Bureau of Reclamation studies will be \$13,000,000.

In light of the numerous feasibility studies which aptly demonstrated that certain lands could be economically irrigated, the Lower Brule Sioux Tribe decided to take the initiative in the early 1970's to develop their own irrigation project within the area identified by the 1944 Flood Control Act as the Big Bend Unit and now known as the Grass Rope Unit. Commencing with some Big Bend rehabilitation funds and drought control monies the Tribe acquired some self-propelled circle irrigation units and started farming 1700 acres. A five-year farming record has clearly demonstrated that the Big Bend area is highly responsive

to irrigation and can produce excellent yields under tribal management. This has occurred we believe not only because of good soils and climatic conditions, but also because the Lower Brule Sioux Tribe has had the wisdom to employ good management which they permit to operate free of tribal political interference.

Inasmuch as the Tribe's farming project occupies ground within the identical area designed by the 1944 Flood Control Act, as authorized for construction of an irrigation project, the Tribe on February 26, 1981 applied to the Secretary of the Interior for Pick-Sloan 2 1/2 mil power rates to operate the existing irrigation system and to assist the Tribe in obtaining additional financing to complete the development of the unit in the event that Congress continued to deny funding for the unit. On June 19, 1981, we were informed by the Bureau of Reclamation that the Solicitor had rendered an opinion that 1944 Flood Control Act authorized pumping units would have to obtain funding reauthorization and appropriation in order for the Grass Rope Unit to be considered a component of the Pick-Sloan Missouri River Basin Plan and thus eligible for the 2 1/2 mil rate. The Solicitor's opinion is based upon a 1964 appropriation act whose language was carried over in the 1966, 1968, 1970 and 1972 appropriation acts which, according to the Solicitor, each prohibited the use of any funds authorized by those acts to be

used to initiate construction of a 1944 Flood Control Act authorized project. The Interior Solicitor also apparently concludes that such irrigation unit must be constructed with Bureau of Reclamation monies before being considered a component of the Pick-Sloan Missouri River Basin Plan. It is ironic that the National Government must agree to spend \$13,000,000 on a Bureau of Reclamation project so as to qualify the project for cheap Pick-Sloan power rates when an independent study by a national engineering firm indicates that an equally good or better irrigation project can be built for approximately \$5,500,000. However, there is a lack of incentive to build the less expense project if the Tribe does not get cheap power rates.

In evaluating S.1553 in light of these facts, the Lower Brule Sioux Tribe wholeheartedly endorses the purposes within Section 4. We understand Section 4 to provide that the Secretary of the Interior is authorized to make available Pick-Sloan 2 1/2 mil power rates to irrigation projects constructed in South Dakota by Indian tribes or by public entities organized under state law and which have been authorized by the Flood Control Act of 1944 to receive such power regardless of the source of the funding for such projects. In lending the Lower Brule Sioux Tribe's endorsement we recommend that Section 4 be more specific as to the conditions under which the Secretary is obligated to make such rates available to tribes and public entities. Section

4 presently leaves too much discretion with the Secretary. We recommend that a process be outlined whereby the Secretary would be directed to give the highest priority to those projects which were built in whole or in part with non reclamation funds, a second highest priority to those projects built in economically depressed areas, and a third priority to projects built pursuant to completed reclamation studies and funds. We further recommend that, in order to encourage quick development of such projects both with and without federal funds and to attract private capital for the building of such projects that the entity authorized to construct the project be specifically permitted to allocate to private capital investors such items of income, gain, loss, deduction and credits as would otherwise be allocable to appropriate entities under Section 704(b)(2) of the Internal Revenue Code of 1954.

CONCLUSION

The Lower Brule Sioux Tribe has sacrificed over one-half of its valuable lands for the national benefit on numerous occasions. We are now asking this Subcommittee to favorably report and advocate the enactment of Section 4 as a means of acknowledging and meaningfully repaying the Sioux in a way that will promote viable agricultural economic development and bring the Sioux into the mainstream of the economy without destroying their traditions. With the clarifications recommended S.1553 will at last bring to pass a 40 year old promise.

Thank you for this opportunity to present our views.

NORMAN G. WILSON
President

NARCISSE BRAVE
Vice-President

Rosebud Sioux Tribe

ROSEBUD INDIAN RESERVATION
ROSEBUD, SOUTH DAKOTA 57570

Incorporated Under Act of June 18, 1934, 48 Stat - 984

PHONE: 605-747-2381

JOHN KING, Jr.
Secretary

CHARLES WHITE PIPE, Jr.
Treasurer

Honorable Senator James Abdnor, and fellow citizens:

I am Norman Wilson, Chairman of the Rosebud Sioux Tribe. The Rosebud Sioux Tribal headquarters are in Rosebud in southern South Dakota. We are proud to have traversing through our reservation, one of the most constantly flowing streams in the state, the Little White River which feeds the Big White River.

We are all aware of the great importance of water to life. Generations of South Dakotans would not have survived had it not been for the windmill which brought the lifeblood to the surface and watered our dry soils. Indian people are known for their nomadic ways but we were also known as farmers. Native American contributions to agriculture include the potatoe and corn. Two of the most important staples in the diet of American people today. The purpose of this hearing today is to gain input from the citizens of South Dakota regarding water development. Indian people have dual citizenship; we are not only citizens of South Dakota but also members of the Rosebud Sioux Tribe. We did not create this situation, it was imposed upon us through the Congress of the United States. It cannot be forgotten that the entire state of South Dakota belonged to the Sioux. When the value of the land became apparent, when it was advantageous to the Federal Government, not only one but several acts of Congress were passed taking away several thousands of acres of valuable lands. Imagine yourself in this situation: valuable minerals, gas or oil are found on your property. The federal government through an act of Congress withdraws these lands from your ownership and transfers these to the highest bidder. What would your response be? This is only one small example of the anguish that Indian people have had to endure. Our existence can be affected by the whims of Congress. This does not contribute to stable or consistent economic conditions on the reservation.

Indian tribes, too, have suffered and sacrificed lands through the Army Corps of Engineers Pick-Sloan Plan. In 1944, the Missouri River formed the eastern boundary of the Rosebud Sioux Reservation. In 1981 the eastern boundary

of the reservation has been moved, through three Acts of Congress, a distance of approximately 90 miles to include only Todd County. The Rosebud Sioux have not received any compensation for the "taking" of these lands and adjoining rivers, streams and creeks.

WATER in South Dakota has recently erupted into an extremely controversial issue. It is the subject of political debates, the topic of campaign promises and news about water makes headlines in any newspaper. Water has evolved into an extremely touchy political issue and is the source of political trade-offs. Since water is so controversial, this political controversy creates an obstacle for Indian tribes to develop water projects in this state at this time.

The Rosebud Sioux Tribe is a sovereign entity. The Tribe's responsibilities have increased fourfold in the last ten years while our land base has decreased. We are all aware that the value of land increases when water is included in the unit. This is why I am here today. Not only will the Rosebud Sioux people benefit through the development of water projects on Indian reservations but all people in our region. Crops grown on our reservation will not only feed our people but also people outside of the region. Seeds, pesticides, farm implements and labor will also benefit the economy of the entire region and the whole state will benefit.

I, too, am tired of federal handouts and the dependency on federal programs. I would like to see not only the Rosebud but other reservations become independent and self-sufficient. When federal funding was plentiful, we took advantage through the completion of several feasibility studies that concluded that water projects are feasible on the Rosebud. We, also need water for our future survival. In order to provide for our people we are proposing several water projects that will not only provide economic stability but also self-sufficiency.

Our first and foremost priority is the Rosebud Rural Water Distribution System. This is a six million dollar (\$6,000,000.00) project that has been completed by DeWild, Grant and Reckert from Rock Rapids, Iowa. This system will provide good quality water to not only the reservation but also to the non-Indian communities of Murdo and White River. There are still some communities on the reservation that are without an adequate and dependable water supply. Even this past month we had three communities that had water hauled in for domestic use. This system will have approximately 204 miles of pipe with approximately

1500 hook-ups. Water will be withdrawn from the Ogallala Aquifer which underlies the Rosebud and Pine Ridge reservations. No pumping stations will be required since the elevation at St. Francis is approximately 1000 feet higher than White River. St. Francis is the general location where the wells will be drilled. The water will flow by natural gravity downhill to White River and Murdo. This is a perfect system that lacks the funding to begin construction.

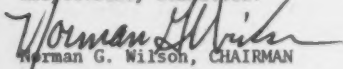
Our second most important project is the Little White River project presently being conducted by the firm of Boyle Engineers from Bakersfield, California. They are in the final stages of completion. This study will tell us how feasible it is for the Tribe to construct a dam on the Little White River for hydro-electric power generation and other associated uses. This project has been estimated to cost approximately 25-35 million dollars.

The Tribe owns 30 center pivot irrigation systems. The initial cost of this project was two million dollars. This is our strongest and most productive project at the moment. Since we are located in an agricultural region this project has a great deal of promise. We hope to expand this project through the acquisition of and expansion of more pivots through a multi-phased plan. Through the production of crops for our people and animals we will have our feet on the ground toward economic stability.

None of the above mentioned projects can provide the economic stability we need unless we have the all important, life giving liquid of water. We do have the water we need but the funds are the missing link. We, hope that you can put aside all of the political ramifications that would result from the funding of water projects for Indian Tribes and take an important step toward helping all of the citizens of South Dakota.

I sincerely thank-you for allowing me to testify before this committee today and hope that my comments can impact water development in the state for all of its citizens and especially Indian people.

Respectfully Submitted:



Norman G. Wilson, CHAIRMAN

ROSEBUD SIOUX TRIBE

Senator MURKOWSKI. The committee does acknowledge his presence, and we appreciate your introduction.

Senator Abdnor, do you have any questions?

Senator ABDNOR. No.

Senator MURKOWSKI. Thank you, lady and gentlemen. We appreciate your testimony.

We will call on the next group. We are now on page 3 of the witness list, for those of you who are wondering. We will call on Miss Pat Patitz, Mr. Jim Bell, and Mr. Ron Wheeler. Miss Patitz is the executive director of the South Dakota Water Congress; Mr. Bell represents the South Dakota Chamber of Commerce; Mr. Ron Wheeler is the president of the Huron Chamber of Commerce.

We have a statement that will be submitted for the record formally by Mr. Ted Lerew. We have another gentleman, Mr. Alan Silverstein. Mr. Silverstein is the president of the Huron Chamber of Commerce, and Mr. Wheeler is the executive vice president.

Mr. WHEELER. Vice versa.

Senator MURKOWSKI. All right; we will try it the other way around.

Ms. Patitz, would you proceed, please.

STATEMENT OF PATRICIA L. PATITZ, EXECUTIVE DIRECTOR, SOUTH DAKOTA WATER CONGRESS

Ms. PATITZ. Thank you, Mr. Chairman, and welcome to South Dakota. The South Dakota Water Congress does not support the loss of the Oahe authorization, rather, we do encourage a restructuring of the current authorization as exemplified in Senate bill 1553.

South Dakota economic stability fluctuates with the rain. With this in mind, I would like to quote Assistant Secretary Garrey Carruthers, who stated in his "Economic Constraints to Rural Development" that the rural sector must have a stimulus, and once that stimulus occurs, the locality concerned becomes attractive to businessmen and managers because a potential for profitable development exists.

The only restraint to this type of rural development centers on the availability of a natural resource. Limited quantities of water in southern California would seem to have provided a barrier to development of this region; however, through elaborate water systems, this resource has been successfully routed into the region.

South Dakota could enjoy the same development through our water natural resource.

The Water Congress strongly endorses the multipurpose project which provides water for all types of uses. We have noticed that those who do not support this type of endeavor usually support no projects at all.

I believe the Water Congress' position is in tune with the quiet majority of this State. You have heard comments about subsidies coming to this State, and I would like to share with you the following figures.

Since from 1902 to 1979, the total outlay by the Bureau of Reclamation, that's for 77 years, the total outlay just for the Bureau of Reclamation projects totaled \$8.8 billion. Compare that for 1979, the flood damage savings from 1950 to 1959, only 29 years, were estimated \$1.8 billion.

Since 1979 alone, the estimated savings from floods was \$135.4 million. But the interesting part is that in 1979, crops grown with Bureau of Reclamation water were valued at \$6.9 billion, almost as much as what it spent in total outlay for 77 years.

The Federal tax revenue directly traceable to the Bureau of Reclamation projects during that year were \$2 billion. You return that \$2 billion to the water resources, and that is not a subsidy.

We support the concepts incorporated in Senate bill 1553. We urge not only the passage of such language, but the assurance of the long-term funding for its implementation, because without the long-term funding, this has been an exercise in futility.

We sincerely hope 1553 is indeed the light at the end of the long, winding tunnel that has prevented just compensation to South Dakota so that we can commence to move forward to meaningful water development.

With that, Mr. Chairman, I thank the committee and ask if there are any questions?

[The prepared statement of Ms. Paltitz follows:]

SOUTH DAKOTA

WATER Congress

P.O. Box 536
 Pierre, South Dakota
 57501
 605-224-7945

Patricia L. Patitz
 Executive Director

SENATE SUBCOMMITTEE ON WATER AND POWER HEARING

RE: S 1553

Pierre, South Dakota, Saturday, September 12, 1981

TESTIMONY BY SOUTH DAKOTA WATER CONGRESS, Patricia L. Patitz, Executive Director

The South Dakota Water Congress is a non-profit organization devoted to wise and orderly development of South Dakota's water resources. Our membership is open to any individual, business, organization or entity who believes in our objectives of unification of water users and interests for the purpose of developing, protecting and utilizing the water of South Dakota.

I am appearing before you today as the representative of the South Dakota Water Congress in an endeavor to place into perspective the feelings of the broad-based membership of the Water Congress. Because of our activities as an educational organization, and our activities as an organization working closely with the elected officials at all levels of government, and because of the wide spectrum of water uses and interests that are members of our organization, we feel that we are in tune to the pulse beat of the populace of South Dakota, the quiet majority of South Dakota. The Water Congress believes that the quiet majority of South Dakota do want water development - rural water systems, urban water systems, irrigation, municipal and industrial systems, fish and wildlife needs and others. We believe that it is time to step forward in an effort to dispel the mistaken notion that a few with tunnel vision represent the majority of the people of this fine state.

South Dakota is an economically depressed state from the recent drought. There is hardly a time in South Dakota that portions of the state are not faced with water shortages, or at least with the rains falling at the wrong time for good, sound crop growth and production. Without sound water development, South Dakota is faced with dwindling population, less business opportunities, further transportation problems, loss of our youth to other states, and a general remission of economic stability. Studies have shown that those areas that have water development which can support smaller farms have more families not only in the rural sector, but in the urban sector as well. The stabilization of our farming and ranching population has a direct relationship to the stabilization of the small communities so vital to an agricultural state. This relationship is in direct alignment to the economic survival of the business community, to transportation, to schools and civic activities, to the advancement of new enterprise, and to the future of this state. We have no vast amounts of

Senate Subcommittee on Water and Power
S 1553, 9/12/81, Pierre, S.D.

coal, of natural gas, or uranium and other minerals, we have only water, land and, at this time, people. Without water development, we stand to lose the people.

Assistant Secretary of Interior Garrey Carruthers states in his "Economic Constraints to Rural Development" which was co-authored with two other economists, that "Rural development is the achievement of which would lead to a more nearly optimal population distribution in the United States. The aim of rural development is, then, to slow down or reverse the growth of congested, polluted, crime and hate-ridden cities by offering alternative and preferable places for people to live and earn their livings." "In the context of rural development, the question of access - access to both input and output markets - is of great significance. Access, of course, suggests distance and the costs imposed by distance on the assembly of inputs and the distribution of outputs." The paper continues with discussions of stimuli of the rural sector and further states, "once a stimulus occurs, the locality concerned becomes attractive to businessmen and managers because a potential for profitable development exists. In effect, given a sufficient stimulus, the constraints alluded to.... disappear. Once the stimulus is triggered and the economic forces generated, capital and labor resources will enter the region and the infrastructure will naturally follow. The only restraint to this type of rural development must center on the availability of a natural resource. Limited quantities of water in southern California would seem to have provided a barrier to development of this region; however, through elaborate water systems, this resource has been successfully routed into the region." You may obtain more insight into the rural-urban, agricultural-business growth pattern and economic stability in studying the results of irrigation in any of the 17 western states.

The Water Congress is not requesting the Federal Government to lay out millions of dollars as a gift, rather we are asking that we be justly compensated for the loss South Dakota has accrued from the construction of the mainstem reservoirs that provide so much benefit to our sister states, the states receiving the electricity generated within our boundaries, the flood protection those reservoirs provide, and the dollars that have generated the taxes spent in other areas of the United States, such as the millions spent for the mass transit system in Washington, D.C. (Although the transit system may be needed, it does not generate tax dollars for Federal utilization that agriculture has proven to do.)

1979 records show that over the years the total outlay for construction costs of Bureau of Reclamation projects has totalled \$8.8 billion. Compare that figure with the following: Flood damage savings from 1950 to present are estimated at \$1.8 billion.

Senate Subcommittee on Water and Power
S 1553, 9/12/81, Pierre, South Dakota

(This is an outlay for 77 years compared to a savings in only 27 years!) In 1979 alone, the estimated savings from floods was \$135.4 million. In the Bureau of Reclamation project area, 18.9 million people receive non-agricultural water. In 1979, crops grown with Bureau of Reclamation water were valued at \$6.9 billion. The Federal tax revenue directly traceable to Bureau of Reclamation irrigation totalled about \$2 billion in 1979. Add to this the hydroelectric power generated to benefit 14 million persons, and then add the same applicable terms to the Corps of Engineers projects, Soil Conservation projects and others, and you have a base of economic support that the people of the United States could not survive without continuation of present projects and expansion of new projects.

The point being made is that not only is South Dakota's position justifiable in the area of assistance because of the mainstem reservoirs and power leaving the state, but irrigation and other water development is a future benefit to the entire nation.

Those of us who have been involved with water development have watched in great frustration as rules and regulations have been altered in an effort to slow or stop water projects, we have waited in line while federal agencies and Congress have taken 20 to 25 years to bring a project into being, we have watched intently as 'hit lists' have been published, and we have stood by while millions have been spent on various projects that bring no new revenues or future bases of community building. We have not watched and stood silently, but our voices have fallen on deaf ears. We hope today that we will be heard, and that those of you hearing us will share our views with the other members of Congress.

Let us take a look at the Oahe Unit as authorized. The plan is outdated and outmoded. Why? Because of the slow moving pace of bureaucracy. Consequently, we have a 1930 motor in a 1981 car, and the couplings just don't fit. What we are in need of is a 1981 streamlined plan that can be implemented today. Do we in South Dakota have a 1981 plan of action? Yes. Now all that we need is the commitment of people such as yourselves to bring our plans into being - not in 2050, but starting today.

S 1553 provides the mechanism by which South Dakota can commence to move forward. S 1553 is the formulization of what needs to be done in South Dakota. And, I believe that S 1553 can and will be supported by the majority of the people of South Dakota. I believe that the majority of the people of South Dakota realize that we must work together to support the concepts and proposals of S 1553. If we do not, then we will never have meaningful water development in South Dakota. I believe as those projects and concepts contained in S 1553 are constructed and put into operation, we will see a marked upswing in the economic stability that will encompass the entire state. The passage of this bill could be the hinge of our future as a viably stable area.

Senate Subcommittee on Water and Power
S 1553, 9/12/81, Pierre, South Dakota

Section 2 of S 1553 pertains to facilities currently built or partially in place as part of the Oahe Unit. It would be a travesty of justice, and a waste of tax dollars, should we lose the capability of utilizing the pumping plant, the pumps, the canal system and the Blunt Reservoir. We would be losing facilities that have the potential of assisting hundreds of citizens of this state. We need to consider a project that can make use of the facilities and benefit the people and the Central Dakota (CENDAK) Multi-Purpose Water Delivery System is the type of project that possibly can be moved forward in this endeavor. This proposal would provide water for rural and urban residents, deliver much needed water to the James River not only for human needs but for fish and wildlife needs as well, and would provide water to lands that have been parched dry too many times in the history of farming in this area. It has the potential of being a most enviable solution to a long-standing problem. The local support has been superb, and the only misgivings have come from those who seem to find fault with any multi-purpose project. The Water Congress believes that the best utilization of water development is encompassed in the multi-purpose project concept where there is water for all types of uses and needs.

We do have a concern regarding S 1553, and other such legislation. The introduction of legislation of this type is not hard. The tough road is the appropriation of the dollars necessary to carry forth the initial concepts set forth in S 1553, followed then by the yearly continuation of the funding needed to satisfy what is encompassed in this bill. Without the dedication of our people, our Congressional delegation, you members of Congress, the remainder of Congress and the Administration, we are only participating in an exercise of futility and loss of effort. We hope that there is indeed a light at the end of the long, winding tunnel that has prevented past compensation that South Dakota justly deserves.

We do support the concepts as set forth in S 1553. We encourage full support by Congress and the Administration in the passage of this bill so that South Dakota may enjoy a progressive future through meaningful water development.

Senator MURKOWSKI. Thank you very much. We appreciate your summary, Ms. Patitz.

In view of the fact that you are more or less an informal panel, I would request your presence. We will call on Mr. Jim Bell, representing the South Dakota Chamber of Commerce. And I would ask again your indulgence to keeping your remarks as timely as possible within the 3-minute limit.

Mr. Bell?

STATEMENT OF JIM BELL, ON BEHALF OF THE SOUTH DAKOTA CHAMBER OF COMMERCE

Mr. BELL. Thank you, Senator Murkowski, and welcome to our State. I also want to acknowledge the hard work by the Senator from our State, Jim Abdnor, and his fine staff.

Copies of our formal remarks are furnished herewith, and we ask they be included in the record.

Senator MURKOWSKI. So noted.

Mr. BELL. My name is Jim Bell. I am a practicing civil engineer. All of my career has been spent in South Dakota and Nebraska. As a 28-year resident of Rapid City, I consider the matter of water development or lack of it, wherever it may be in the State, to be of vital interest to the entire State.

Also, I am a member of the South Dakota Board of Water and Natural Resources, a founding director of the South Dakota Water Congress and the current board chairman of the South Dakota Chamber of Commerce.

As chairman of the board of the South Dakota Chamber of Commerce, I am speaking for a general business organization representing over 1,500 employers who employ over a third of the State's labor force. Also, our organization has all types of business firms from every corner of the State as members.

We fully recognize that agriculture is the largest aspect of our State's economy. Moreover, we recognize that water is an essential element in the success of agriculture. Because of these facts and because of our broad interest in the State's economic base, the State chamber has been keenly interested in water management and development for the entire 45 years of our existence.

By now, Senators, after these long hours of testimony here today, you will realize that South Dakotans are very vocal. And unfortunately, until recently, you folks in Washington have been receiving signals principally from one small vocal, well-orchestrated group who have succeeded in talking the project to death a full generation after this project should have been completed.

Finally, the mood of thinking South Dakotans regarding water use, management, and development has changed and provides a good base for internal cooperation for successful accomplishment. Our current State political leadership and congressional delegation are more in harmony now than ever in the past 20 years concerning water development.

It is our opinion, as a member of the private sector, that our State leaders are more unified now than ever in the past. Further, they recog-

nize that in the national interest, significant portions of capital outlay for the Oahe project should be salvaged.

The State chamber of commerce fully supports Governor Janklow, Senator Abdnor, and Congressman Roberts in their efforts regarding S. 1553. We pledge our time, effort, and resources to support the spirit of S. 1553 and look forward to the day it will provide benefits to all segments of our economy and the Nation.

Thank you very much for this opportunity for us to testify.

[The prepared statement of Mr. Bell follows:]

SOUTH DAKOTA CHAMBER OF COMMERCE

Testimony Presented at
Senator James Abdnor's Field Hearing
on S 1553

Pierre, South Dakota
September 12, 1981

My name is Jim Bell. I am a practicing civil engineer. Most of my career has been spent in South Dakota and surrounding states. I am a partner in the firm of Bell, Galyardt and Associates, architects and engineers, of Rapid City. Also, I am a member of the South Dakota Board of Water and Natural Resources, a founding Director of the South Dakota Water Congress and the current Board chairman of the South Dakota Chamber of Commerce

As Chairman of the Board of the South Dakota Chamber of Commerce, I am speaking for a general business organization representing over 1500 employers who employ over a third of the state's labor force. Also, our organization has all types of business firms from every corner of the state as members.

We fully recognize that agriculture is the largest single aspect of our state's economy. Moreover, that water is an essential element in the success of agriculture. Because of these facts and because of our broad interest in the state's economic base, the "State Chamber" has been keenly interested in water management and development for the entire 45 years of our existence.

Today, I will speak to three main points: S 1553: the Oahe Irrigation Unit from our perspective and the future of water management and development.

Sen. Abdnor Field Hearing
S 1553
9-12-81

First, let me comment on the Oahe Unit. We feel the project had to have been implemented almost immediately after the building of the Oahe Dam. Quick implementation was necessary in order to take advantage of the then existing state-of-the-art engineering. If the project had been quickly implemented, we feel it would have been successful in accomplishing its projected economic goals. As it was not accomplished, and further, the ramifications of the time delay - mainly due to regulation changes, engineering changes not originally envisioned and a generation that viewed the project as outdated, unrealistic and inefficient - have led to argument, stalling action and diversionary tactics that (to date) have benefited absolutely no one, least of all the economy of our state. We are still dependent on agriculture as the mainstay of our economic base, which in turn is dependent on water, which we are not delivering.

We feel major changes have occurred to alter the frustration of the past years. This is evidenced by the actions that have brought S 1553 to this point. The recent announcement of the Governor's Water Plan. The work of the Water Goals Conferences held last year. The development of the Cendak project and the Legislature's approval of SB 177, put forth by the Water Congress during the last Legislative Session. We view all of these actions as major breakthroughs in water development that will go a long way towards successful future water management programs.

We feel S 1553, simply stated, gives us (South Dakotans) the incentive and opportunity to write off a poorly-conceived and outdated

Sen. Abdnor Field Hearing

S 1553

9-12-81

project in favor of substitute projects that meet the modern needs our our state. Moreover, we feel S 1553 gives us an opportunity to preserve a major portion of the capital outlay and hasten the day we all can receive a return on our investment.

S 1553 (sections two, three and four) in our estimation, are the heart of future water project funding in our state. The joint study of alternative projects by the Interior Department and our state governmental leadership, coupled with the cancellation of the Oahe contract and the access to lower cost power from the Missouri Basin for irrigation projects can only lead to achieving a return on the financial investment that has been made by South Dakota and the Federal government.

The mood of South Dakotans regarding water use, management and development, we feel to be excellent and a good base for internal cooperation and successful accomplishment. Our current state political leadership and Congressional delegation are more in harmony now than ever in the past twenty years concerning water development. It is our opinion, as a member of the private sector, that our state leaders are more unified now than ever in the past.

The State Chamber of Commerce fully supports Governor Janklow, Senator Abdnor and Congressman Roberts in their efforts regarding S 1553. We pledge our time, effort and resources to support the spirit of S 1553 and look forward to the day it will provide benefits to all segments of our economy and nation.

Senator MURKOWSKI. Thank you, Mr. Bell. The Chair does hear the signals from the State of South Dakota quite loud and quite clear. We will call on the next witness, Mr. Alan Silverstein.

**STATEMENT OF ALAN SILVERSTEIN, PRESIDENT, HURON
CHAMBER OF COMMERCE, HURON, S. DAK.**

Mr. SILVERSTEIN. Mr. Chairman, Senator Abdnor, I am here representing Mayor Paul Flanagan and the city of Huron, a city of 13,000.

The city of Huron is vitally concerned about the future of water development in South Dakota for two principal reasons: First, we need and are attempting to work toward the development of good quality water sources for the needs of the citizens of Huron; second, we want to work as a community toward the development of water sources for irrigation and domestic purposes in South Dakota.

Many of the factors of why the city of Huron continues to work toward developing good quality water supplies for its citizens are obvious. We need good quality water in our homes for daily living, at our place of business for our jobs, and to support the many services and facilities offered by a community such as Huron.

But there is a basic flaw in our present system, a flaw which is contrary to what we are in this country and this State and how we have reached the point we are at. The flaw is that, of necessity, we must put our community on water restrictions. We just do not have sufficient water supplies.

We are telling the city of Huron to grow and prosper, but only attempt it half the time. Imagine the success of our parents and their parents and grandparents if they had worked and struggled only half of the time in trying to make this country grow and prosper.

Second, the city of Huron desperately needs development of water resources for irrigation in east-central South Dakota. Such development for irrigation purposes is just as important to the city of Huron as it is to the farmer.

East-central South Dakota, like other portions of the State, has an agriculture-oriented economy. The city of Huron does not have a sufficient diversification in its economy base to make up for the loss of business due to drought conditions in the agricultural economy.

One does not need to pause too long to accurately assess the principal cause of vacant buildings and lots in Huron's main street areas, all essentially in the last 10 years, or the principal cause of the decline of 1,300 people in Huron's population from 1970 to 1980. These and other indicators quickly point to the lack of water development and availability to Huron's agriculture-oriented economy.

Third, many of Huron's neighbors live in small towns and on farms. In large part, their supply of water for domestic purposes is woefully inadequate both from a quantity and a quality point of view. For these principal reasons, the city of Huron overwhelmingly support S. 1553 to bring about fulfillment of the Federal commitment of South Dakota water development. We strongly support our State's water development program and its call for multipurpose systems for water use.

We feel that these projects, together with various pipeline projects, effectively address the need of providing a water transmission system for Missouri River water to eastern South Dakota.

Thank you.

Senator MURKOWSKI. Thank you, Mr. Silverstein. We appreciate your testimony.

We call on Mr. Ron Wheeler, president of the Huron Chamber of Commerce.

STATEMENT OF RON WHEELER, PRESIDENT, HURON AREA CHAMBER OF COMMERCE

Mr. WHEELER. Thank you, Senator. It's not particularly difficult to dramatize as well as summarize Huron's need for good quality water. All we need to do is refer the Senators to an incident that happened last week at the South Dakota State Fair wherein our water managed to kill most of the State's fish in the Game, Fish, and Park's exhibit there. And so the need for good quality in our community is probably more important than, perhaps, other communities.

The Huron Area Chamber of Commerce has long been one of the strongest proponents of water development in the State of South Dakota. The James Diversion Dam, which was built by the Federal Government and paid for by the city of Huron, was to have been a part of the project to deliver Missouri River water to the James River.

Although the original plan has been frustrated, the need for that water is no less critical. The current drought demonstrates that in order to assure economic stability and growth, both on the farm and in the cities, we need water.

When multipurpose water development was brought to a halt, Huron and the State of South Dakota was both big losers. The drop in population here between 1970 and 1980 can be traced, in part, to the loss of the assurance of adequate water in the future.

We support Governor Janklow's statewide plan for water development, of which the Garrison plan and the CENDAK plan would provide us with an adequate and stable water supply.

Our community did not complain when water development in neighboring States was met first because we felt that the Federal Government would honor its legislative promise to us. Now our whole future is being jeopardized by Congressman Berkley Bedell, whose own State has benefited immeasurably from the dams on the Missouri River.

His introduction of legislation to kill the Oahe project erases the Federal Government's commitment to water development in South Dakota. The Huron Area Chamber of Commerce feels that the time for empty Federal promises to us has passed, and the time has now come for progressive water development in South Dakota.

Thank you.

Senator MURKOWSKI. Thank you very much, Mr. Wheeler. We appreciate the testimony of the panel, and we wish you a good day.

We have accommodated Mayor Tobin and Mayor Knobe, and we will move down to the environmental panel. Next is Ms. Esther Edie, chairwoman, South Dakota Resources Coalition, and replacing Mr.

Spencer of the South Dakota chapter of the Wildlife Society is Mr. David Sanford of the same organization. Mr. James Madsen, regional vice president of the National Audubon Society, and Father Leonard Kayser, director of the National Catholic Rural Life Conference, who will be accompanied by Mrs. Gordon McKeown of White, S. Dak.

I would ask Ms. Edie to open the testimony for the panel, and we welcome you.

**STATEMENT OF ESTHER R. EDIE, CHAIRWOMAN, SOUTH DAKOTA
RESOURCES COALITION**

Ms. EDIE. Thank you, Senator Murkowski and Senator I am pleased to have this opportunity to present the view of the South Dakota Resources Coalition on S. 1553.

We are pleased that the bill seeks to expedite funding for the WEB pipeline. In our view, the most appropriate water projects for our State with Federal funds are those to supply the domestic needs of a substantial number of people who have exhausted alternative solutions.

The planning should be initiated and carried on by local people, and those who will benefit should be willing to make a healthy financial commitment toward repayment of the costs.

Senator, I am skipping just here and there throughout this lengthy testimony.

Senator MURKOWSKI. I appreciate that very much.

Ms. EDIE. Deauthorization of the Oahe unit is long overdue, and we urge that at least partial deauthorization be incorporated in this bill.

We support the basic content of section 2(a)(4), which calls for consideration by the Secretary of the Interior of potential development of projects proposed by the State of South Dakota. However, we are concerned that this section and section 2(d), which provides that the Secretary may contract with the State to carry out the studies authorized by this bill, could, as written, override the wishes of people directly affected by various projects.

South Dakota does have legitimate water development needs primarily related to the domestic water supplies. You have heard from the people in Huron. We want to see those needs met.

Hydrological studies and projects involving the maintenance and enhancement of water quality also are critically needed in the State, and the Coalition strongly supports such studies and projects which do not use dilution as the primary solution to water pollution, and which recognize water and energy conservation as important constituents of the projects.

We oppose section 4 of S. 1553 which provides for applying the Missouri Basin pumping power rate to projects in South Dakota. We do support the Grass Rope project and wish a favorable pumping rate could be made available to the Indian tribes, who have given up so much, without setting a dangerous precedent and without further scraping the bottom of the power fund.

However, it should be recognized that the Missouri River Basin pumping rate is a heavy drain on an essentially bankrupt account.

In 1978, the U.S. Department of the Interior's Office of Audits and Investigations issued a report which points out that the financial posture of Pick-Sloan is based at best on unreality. It emphasizes the critical need to reassess the entire Pick-Sloan plan and to look at the rates charged to power and other users. The 1980 Semiannual Report of the Inspector General confirms the findings of the 1978 report and reiterates the need to assure that beneficiaries of projects rather than general taxpayers pay the costs.

The authors of S. 1553 are trying in good faith to resolve a problem—the problem of high energy costs for irrigators. But creating unrealistic expectations which cannot be satisfied in any fiscally sound way is ill advised. Furthermore, it is inappropriate to expand or even retain artificially low electricity costs for one class of users when other classes are not only subject to inflationary rates, but must subsidize the users whose rates are kept low.

Why should irrigators buy electricity for 2.5 mills while families, including many elderly and low-income people, are paying 50 to 70 mills. It should be noted that Missouri River power is priced to preferred customers, such as East River Electric Power Cooperative and some municipalities, at between 5 and 6 mills per kilowatt-hour.

But the mainstem dams now supply a constantly decreasing amount of East River's power—presently only about 45 percent. The other 55 percent is supplied by Basin Electric Power Cooperative at a current price of 30.5 mills.

Irrigation expansion, per se, and particularly expansion of irrigation pumping at a 2.5 mill kilowatt-hour pumping rate could greatly increase the financial burden for all other consumers as more and more expensive thermal power must be blended with a fixed allocation of inexpensive hydropower.

I will cease my remarks there, Senator.

[The prepared statement of Ms. Edie follows:]



South Dakota Resources Coalition

Volunteers in the Public Interest

Drawer G, Brookings, S.D. 57007

TESTIMONY OF ESTHER R. EDIE, CHAIR, SOUTH DAKOTA RESOURCES COALITION

BEFORE THE SUBCOMMITTEE ON WATER AND POWER
OF THE U. S. SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES
PIERRE, S. D., SEPT. 12, 1981

Mr. Chairman and Members of the Committee:

My name is Esther Edie. I chair the South Dakota Resources Coalition, a statewide consortium of farm, environmental, religious and civic organizations and individual members with a long interest and involvement in water policy issues. We appreciate the opportunity to present our views on S. 1553.

We are pleased that S.1553 seeks to expedite funding for the WEB pipeline. In our view the most appropriate water projects for our state with federal funds are those to supply the domestic needs of a substantial number of people who have exhausted alternative solutions. The planning should be initiated and carried on by local people, and those who will benefit should be willing to make a healthy financial commitment toward repayment of the costs. The WEB pipeline meets these criteria. We would urge that construction of the pipeline be left in the Farmers Home Administration rather than in Interior. We feel that since the Oahe Unit is still authorized, the Bureau of Reclamation would have an inherent conflict of interest.

We are very disappointed that S.1553 does not include deauthorization of the Oahe Unit. Our understanding is that appropriations committees of the Congress would not have deferred FY 1981 WEB funding had a deauthorization bill been passed. Deauthorization is long overdue, and we urge that it be incorporated into this bill.

We support the basic concept of Section 2^(a)(4) which calls for consideration by the Secretary of the Interior of potential development of projects proposed by the state of South Dakota. However, we are concerned that this section and section 2 (d), which provides that the Secretary may contract with the state to carry out the studies authorized by this bill, could, as written, override the wishes of people directly affected by various projects. From this undermining of local decision-making on studies it could be a short step to overruling the wishes of local entities relative to project construction. The Oahe Unit is a case in point. With all the features of the Oahe Unit still authorized, Sections 2 (a) (4) and 2 (d) set the stage for an attempt to resurrect much of the Oahe Unit under another name. What is needed is wording that requires the consent of affected Conservancy Sub-district Boards and of county commissioners in affected counties which do not belong to a subdistrict. It should be noted that subdistrict boards are elected boards responsive to local needs and desires. The state Conservancy Board which would have contracting authority for the state is a board appointed by the Governor and its decisions would not necessarily coincide with those of regional and local entities directly affected by given project development.

SDSU Great Plains Alpine Club • Lakota Audubon Society • Black Hills Energy Coalition
National Catholic Rural Life Conference, Sioux Falls Diocese • CRUD (Community Recyclers of Usable Discards, Sioux Falls)
Dakota Environmental Council • Friends of the Earth, South Dakota Chapter • South Dakota Lung Association
Brookings County National Farmers Organization • Lake County National Farmers Organization • South Dakota Ornithologists Union
Dakota Chapter of the Sierra Club, South Dakota Section • Soil Association of South Dakota
• Upper Sioux River Basin Conservancy Council

(THIS PAPER IS 100 PERCENT RECLAIMED WASTE PAPER.)

p. 2, Edie testimony

Inflation and our runaway federal budget have brought the nation to the place where we can no longer afford expensive, heavily subsidized water projects with a ridiculously low interest rate that benefit relatively few people. The 1981 cost of the Oahe Unit is estimated at \$913 million, and at the most only 8 percent of that cost would be repaid by the 600 farmers who would benefit. By contrast the WEB pipeline would bring water to several thousand persons at a cost of \$70 million with 25 percent repayment by those who benefit. The Pollock-Berreid and Belle Fourche projects are not large projects, but they are very costly considering the benefits to a relatively very small number of persons. The Belle-Fourche project for which reauthorization will be sought has had a dismal repayment record, having repaid only about 37 percent of its small obligation in its first 50 years of operation.

Section 2 (a) (1) of S. 1553 which calls for study of alternate uses of Oahe Unit facilities is of great concern to us. We view it as the beginning of a potential replay of perhaps the entire range of Oahe Unit problems. It should be noted that a substantial proportion of the land in the proposed CENDAK project which wants to use certain Oahe Unit facilities was studied by the Bureau of Reclamation in the early 1950s and found to have such serious drainage problems that it was eliminated from consideration after a board of consultants confirmed the Bureau's findings in 1954 (Preston Funkhouser testimony, Oahe Conservancy Subdistrict Board Hearing on Lands and Drainage, 3/9/77, p. A-11). More recently the Eastern South Dakota Basin Study of 1975 reaffirmed the conclusions of the Bureau and its consultants. In view of these findings we feel that further study of CENDAK would be an ill advised way to spend scarce federal dollars. In any case we urge that the language in Section 2 (a) (1) be changed to specify clearly that alternate uses of either the constructed or yet unconstructed features of the Oahe Unit's open canal system and Blunt Reservoir may not be considered.

not acceptable to the Oahe Subdistrict Board.

We question the appropriateness of Section 2 (b) which directs the Secretary of the Interior not to use criteria less favorable in determining the feasibility of water projects than those under which the Oahe Unit Initial Stage was authorized without the consent of the state. This attempt to preserve an interest rate that goes along with 5¢ candy bars and 39¢ gasoline seems an odd move on the part of those who consistently profess loyalty to balancing the federal budget. The fact that Pick-Sloan power users must pay for the lion's share of these projects does not ease problems for the federal budget.

While South Dakota gave up 500,000 acres of land for the mainstem dams and feels that the state is owed extensive water development funding by way of recompense, it should be noted that the state has consistently received more money from Washington than it has sent, and for a number of years the largest share of the state's budget has come from federal sources. Therefore, the Coalition does not share the view of those in the state who insist that the federal government owes the state an amount of development money equal or nearly equal to the costs of the Oahe Unit. South Dakota does have legitimate water development needs primarily related to domestic water supply, and we want to see those needs met. Hydrological studies and projects involving the maintenance and enhancement of water quality are critically needed in the state, and the Coalition strongly supports such studies and projects which do not use dilution as the primary solution to water pollution and which recognize water and energy conservation as important constituents of the projects.

We strongly oppose Section 4 of S. 1553 which provides for applying the Missouri Basin pumping power rate to projects in South Dakota. We do support the Grass Rope project and wish a favorable pumping rate could be made available to the Indian tribes without setting a dangerous precedent and further scraping the bottom of the power fund. Out of the 500,000 plus acres drowned by the mainstem

p. 3, Edie testimony

dams well over 200,000 were Indian land. The Oahe Unit would return nothing to the tribes for their sacrifice, but the Grass Rope project and a more favorable power rate would be a small return for their investment. However, it should be recognized that the Missouri River Basin pumping rate is a heavy drain on an essentially bankrupt account. It has been a dream that must soon come to an end. In 1978 the U. S. Department of the Interior's Office of Audits and Investigations issued a report titled "Review of the Payment Status of the Pick-Sloan Missouri Basin Program and Individually Authorized Projects, Bureau of Reclamation." On p. 7 the report points out that the financial posture of Pick-Sloan is based at best on unreality. It emphasizes the critical need to reassess the entire Pick-Sloan plan and to look at the rates charged to power and to ~~the~~ users. The October 31, 1980, Semi-Annual Report of the Inspector General (over all Interior's audits) confirms the findings of the 1978 report and reiterates the need to assure that beneficiaries of projects rather than general taxpayers pay the costs.

The authors of S1553 are trying in good faith to resolve a problem—the problem of high energy costs for irrigators. But expanding a mechanism created by the Bureau of Reclamation to extend its own bureaucracy by creating unrealistic expectations which cannot be satisfied in any fiscally sound way is ill advised. It is sending farmers to a well that is dry. Furthermore, it is inappropriate to expand or even retain artificially low electricity costs for one class of users when other classes are not only subject to inflationary rates but must subsidize the users whose rates are kept low. Residential, general farm and small business users are paying constantly increasing prices for electricity. Why should irrigators buy electricity for 2.5 mills while families, including many elderly and low income people, are paying 50 to 70 mills? It should be noted that Missouri River power is priced to preferred customers such as East River Electric Power Cooperative and some municipalities at between 5 and 6 mills/Kwh. But the mainstem dams now supply a constantly decreasing amount of East River's power—presently only about 45 percent with a large share in the ^{total} attributable to irrigation and large industrial use. The other 55 percent is supplied by Basin Electric Power Cooperative at a current price of 30.5 mills/Kwh. Irrigation expansion per se and particularly expansion of irrigation pumping at a 2.5 mills/Kwh pumping rate could greatly increase the financial burden for all other consumers as more and more expensive thermal power must be blended with a fixed allocation of inexpensive hydropower.

The Missouri River Basin Pumping rate is one of a long line of off-budget items that contribute to the spiraling federal budget difficulties. It is these kinds of accounts that help tie the hands and heighten the frustration of David Stockman and QMB as they work at their difficult task.

As to the Oahe Unit itself I would like to comment on just one of the major impacts of the project, that of water quality deterioration in the James River. According to the Bureau of Reclamation's "Water Quality and Return Flow Study" (Summary Report, 9/75) the Oahe Unit will raise the concentration of total dissolved solids in the river to an average of 1430 ppm during the five nonoperating months. For comparison purposes the historic average (1957-1972) is 913 ppm. The river from Huron to the James River diversion dam is classed as a domestic water supply for which the state standard is 1000 mg/l (ppm). Two factors should be pointed out about the Bureau's 1430 figure. First, it would be much higher if large amounts of dilution water had not been factored into the study. The dilution water would be brought over 200 miles from the Missouri River in amounts ranging up to 74,025 acre feet annually; the total amount over the 48-year study period is 1,900,000 acre feet (see Table 7 attached).

One of the so-called benefits of the Oahe Unit is a better water supply for the city of Huron since the James River leaves much to be desired both in quantity and quality. Huron's current annual use is about 700 million gallons. Dilution

p. 4, Edie testimony

water in the amount of 74,025 acre feet would be enough to meet Huron's total water needs for 34 years. According to the Bureau the average amount of dilution water required every year for the entire 48 study years is 38,764 acre feet or about 18 times current annual use.

Despite all this dilution water the state water quality standard ^{will} cannot be met at Huron, and the Bureau of Reclamation has disclaimed responsibility for meeting it. The U. S. Environmental Protection Agency has calculated that if the state water quality standard were met at Huron a low estimate would be 95,300 acre feet and a high estimate would total 285,500 acre feet annually (letter from John Green to Robert MacPhail, 5/9/75).

The Bureau of Reclamation's return flow study fields no information on projected concentrations of pollutants in the James River without added dilution water. Dilution as a solution to pollution has been rejected by professionals in the water quality field. The U. S. E. P. A. has said that construction of the Oahe Unit should not proceed until several critical problems have been solved. One of these is the degradation of James River water quality even with large amounts of dilution water.

If Oahe Dam and the Oahe Unit were being authorized now instead of many years ago the Bureau of Reclamation would probably not be able to appropriate thousands of acre feet of water from the reservoir for dilution purposes. The Federal Water Pollution Control Amendments of 1972 forbid the storage of water for regulation of stream flow for the purpose of water quality control unless the administrator of the U. S. E. P. A. recommends its inclusion at the time the hydroelectric project is licensed by the Federal Power Commission (Sec. 102 (b) (6)). It should be noted that water removed from Oahe reservoir for dilution purposes alone means an average loss of about 13.5 million Kwh* annually of generating capacity that would have to be replaced by fossil fuel plants at very much higher costs and lower air quality.

A second factor relative to the Bureau's figure of 1430 ppm of total dissolved solids is that it is an average and that averages in this context have limited relevance. What matters about James River water quality is the specific concentration levels of pollutants and how often/how prolonged their occurrence is. In the case of tds, ^{and} the sample years the Bureau chose to analyze for maximum flow conditions the 1000 ppm standard will be continually violated at Huron throughout the non-operating months (Table 10 attached). Under minimum flow conditions the standard will be continually violated throughout the sample years except for four months in a single year (see Table 9 attached). The actual number of months during the 48-year study period that the standard will be violated is listed as 221 in Table 1 of the study, and these are all non-operating months. Not a single operating month is listed as being in violation of the standard. But if one checks the

*figured at 342 Kwh per acre foot, the figure supplied by the Bureau for pumping irrigation water. However, the Huron office of the Bureau supplied a figure of only 161.55 Kwh for pumping dilution water (for the official record of the Oahe Conservancy Subdistrict Board's James River Hearing 2/16/77). Using the figure of 161.55 Kwh the dilution pumping requirement is about 6.25 million Kwh. If the water quality standard of 1000 ppm were met, up to 33,170,750 Kwh might be required if EPA's high estimate were correct. Assuming a cost of 6 mills the energy cost would be about \$200,000. Since the consumed energy would have to be replaced by fossil fuel power, the cost at current prices (30.5 mills) would be more than a million dollars.

p. 5, Edie testimony

actual monthly figures in the fine print of Table B-10 (attached) one finds that the standard will be violated in 430* of the 576 study months. Historically, (1957-1972) the tds standard has been exceeded 24 percent of the time while the Oahe Unit, even with prodigious amounts of dilution water, will produce tds levels above the standard about 74 percent of the time, and in 32 percent of the time the standard will be exceeded by 50 to 100 percent.

The state sulphate standard of 500 ppm would be exceeded in 294 study months or 43 percent of the time. Until 1978 the state sulphate standard was 250. Had it not been raised, polluted Oahe Unit return flows would have caused violation of the standard in 506 out of the 576 study months or 88 percent of the time (see Table B-6 attached). By contrast, under historic conditions the 500 ppm sulphate standard was violated 3 percent of the time and the 250 ppm standard 37 percent of the time.

Sodium concentrations would be consistently higher under project operation than under natural conditions in two-thirds of the study months and similar to natural conditions for much of the year in the other months.

Nitrates and pesticides present perhaps the greatest health hazards. No information on nitrate levels as a result of project operation is available and conflicting opinions exist as to return flow concentration potentials. A 1969 Bureau of Reclamation study provides evidence of the appearance of nitrates in both surface and groundwater return flows while a North Dakota State University preliminary report on return flow water quality indicates nitrate levels of 30-70 mg/l at the drains in the Oakes area. While conclusions cannot be drawn on the basis of this preliminary study, the findings are a cause for concern since the state standard is 10 mg/l. In its investigation of the effect of the Garrison Diversion Unit on receiving waters the International Joint Commission in its 1977 report (Transboundary Implications of the Garrison "Inversion Unit," p. 14) reported that during the fall and winter nitrate concentrations would increase from historic levels of less than .6 mg/l to 6 to 9 mg/l. The commission's high estimates, based on extreme conditions, were as high as 20 mg/l.

Nitrates above 10 mg/l can cause infant methemoglobinemia, a disease characterized by reduced oxygen carrying capacity of the blood. Excessive nitrates also cause irritation of the mucous linings of the gastrointestinal tract and bladder with symptoms of diarrhea and diuresis. The water quality parameters in total dissolved solids most likely to affect health are sodium and sulphates. While people become acclimated to high sulphates in drinking water, new users sensitive

**In "Comments of the Environmental Protection Agency on the Oahe Unit Water Quality Modeling Study," the Agency stated that a calculated tds value of 1060 ppm rather than the 1177 ppm value used by the Bureau of Reclamation would be equivalent to South Dakota's gravimetric tds 1000 ppm standard. Using this 1060 value rather than the 1000 used in my original calculations the water quality standard would be violated in 405 of the 576 study months rather than 430.

***"Characteristics and Pollution Problems of Irrigation Return Flows," U. S. Dept. of the Interior, Federal Water Pollution Control Administration, May, 1969.

***Prunty, Lyle, Ass't. Prof., Soils Dept., North Dakota State University, in a report to the Garrison Conservancy District Board of Directors, July, 1981.

p. 6, Edie testimony

to sulphate would be likely to have diarrhea at a concentration of 200 mg/l while the average person would have difficulty at about 500 mg/l. High sodium in drinking water is primarily a problem for pregnant women, and persons with heart disease and high blood pressure.

Finally, according to the U. S. Environmental Protection Agency (Comments on the Oahe Unit Water Quality Modeling Study, p. 3) "it is probable that the water quality situation could be considerably worse than the values depicted in the (Bureau's) Summary Report." EPA criticized the Bureau for failing to develop solutions that would allow domestic water quality standards to be met throughout the year for Huron and observed that dilution "may not be the most economical or the best engineering solution." (p. 8).

Thank you for this opportunity to share our views on S. 1553 and the Oahe Unit.

Esther R. Edie

DAKE UNIT - INITIAL STAGE
SUMMARY OF DILUTION / AUGMENTATION FLOWS

UNITS: M³ SEC⁻¹

DATE - OBSERVATION TIME	Fig. 10 CONCENTRATION	Q ₁₀	Q ₁₁	Q ₁₂	Q ₁₃	Q ₁₄	Q ₁₅	Q ₁₆	Q ₁₇	Q ₁₈	Q ₁₉	Q ₂₀	Q ₂₁	Q ₂₂	Q ₂₃	Q ₂₄	Q ₂₅	Q ₂₆	Q ₂₇	Q ₂₈	Q ₂₉	Q ₃₀	Q ₃₁	Q ₃₂	Q ₃₃	Q ₃₄	Q ₃₅	Q ₃₆	Q ₃₇	Q ₃₈	Q ₃₉	Q ₄₀	Q ₄₁	Q ₄₂	Q ₄₃	Q ₄₄	Q ₄₅	Q ₄₆	Q ₄₇	Q ₄₈	Q ₄₉	Q ₅₀	Q ₅₁	Q ₅₂	Q ₅₃	Q ₅₄	Q ₅₅	Q ₅₆	Q ₅₇	Q ₅₈	Q ₅₉	Q ₆₀	Q ₆₁	Q ₆₂	Q ₆₃	Q ₆₄	Q ₆₅	Q ₆₆	Q ₆₇	Q ₆₈	Q ₆₉	Q ₇₀	Q ₇₁	Q ₇₂	Q ₇₃	Q ₇₄	Q ₇₅	Q ₇₆	Q ₇₇	Q ₇₈	Q ₇₉	Q ₈₀	Q ₈₁	Q ₈₂	Q ₈₃	Q ₈₄	Q ₈₅	Q ₈₆	Q ₈₇	Q ₈₈	Q ₈₉	Q ₉₀	Q ₉₁	Q ₉₂	Q ₉₃	Q ₉₄	Q ₉₅	Q ₉₆	Q ₉₇	Q ₉₈	Q ₉₉	Q ₁₀₀	Q ₁₀₁	Q ₁₀₂	Q ₁₀₃	Q ₁₀₄	Q ₁₀₅	Q ₁₀₆	Q ₁₀₇	Q ₁₀₈	Q ₁₀₉	Q ₁₁₀	Q ₁₁₁	Q ₁₁₂	Q ₁₁₃	Q ₁₁₄	Q ₁₁₅	Q ₁₁₆	Q ₁₁₇	Q ₁₁₈	Q ₁₁₉	Q ₁₂₀	Q ₁₂₁	Q ₁₂₂	Q ₁₂₃	Q ₁₂₄	Q ₁₂₅	Q ₁₂₆	Q ₁₂₇	Q ₁₂₈	Q ₁₂₉	Q ₁₃₀	Q ₁₃₁	Q ₁₃₂	Q ₁₃₃	Q ₁₃₄	Q ₁₃₅	Q ₁₃₆	Q ₁₃₇	Q ₁₃₈	Q ₁₃₉	Q ₁₄₀	Q ₁₄₁	Q ₁₄₂	Q ₁₄₃	Q ₁₄₄	Q ₁₄₅	Q ₁₄₆	Q ₁₄₇	Q ₁₄₈	Q ₁₄₉	Q ₁₅₀	Q ₁₅₁	Q ₁₅₂	Q ₁₅₃	Q ₁₅₄	Q ₁₅₅	Q ₁₅₆	Q ₁₅₇	Q ₁₅₈	Q ₁₅₉	Q ₁₆₀	Q ₁₆₁	Q ₁₆₂	Q ₁₆₃	Q ₁₆₄	Q ₁₆₅	Q ₁₆₆	Q ₁₆₇	Q ₁₆₈	Q ₁₆₉	Q ₁₇₀	Q ₁₇₁	Q ₁₇₂	Q ₁₇₃	Q ₁₇₄	Q ₁₇₅	Q ₁₇₆	Q ₁₇₇	Q ₁₇₈	Q ₁₇₉	Q ₁₈₀	Q ₁₈₁	Q ₁₈₂	Q ₁₈₃	Q ₁₈₄	Q ₁₈₅	Q ₁₈₆	Q ₁₈₇	Q ₁₈₈	Q ₁₈₉	Q ₁₉₀	Q ₁₉₁	Q ₁₉₂	Q ₁₉₃	Q ₁₉₄	Q ₁₉₅	Q ₁₉₆	Q ₁₉₇	Q ₁₉₈	Q ₁₉₉	Q ₂₀₀	Q ₂₀₁	Q ₂₀₂	Q ₂₀₃	Q ₂₀₄	Q ₂₀₅	Q ₂₀₆	Q ₂₀₇	Q ₂₀₈	Q ₂₀₉	Q ₂₁₀	Q ₂₁₁	Q ₂₁₂	Q ₂₁₃	Q ₂₁₄	Q ₂₁₅	Q ₂₁₆	Q ₂₁₇	Q ₂₁₈	Q ₂₁₉	Q ₂₂₀	Q ₂₂₁	Q ₂₂₂	Q ₂₂₃	Q ₂₂₄	Q ₂₂₅	Q ₂₂₆	Q ₂₂₇	Q ₂₂₈	Q ₂₂₉	Q ₂₃₀	Q ₂₃₁	Q ₂₃₂	Q ₂₃₃	Q ₂₃₄	Q ₂₃₅	Q ₂₃₆	Q ₂₃₇	Q ₂₃₈	Q ₂₃₉	Q ₂₄₀	Q ₂₄₁	Q ₂₄₂	Q ₂₄₃	Q ₂₄₄	Q ₂₄₅	Q ₂₄₆	Q ₂₄₇	Q ₂₄₈	Q ₂₄₉	Q ₂₅₀	Q ₂₅₁	Q ₂₅₂	Q ₂₅₃	Q ₂₅₄	Q ₂₅₅	Q ₂₅₆	Q ₂₅₇	Q ₂₅₈	Q ₂₅₉	Q ₂₆₀	Q ₂₆₁	Q ₂₆₂	Q ₂₆₃	Q ₂₆₄	Q ₂₆₅	Q ₂₆₆	Q ₂₆₇	Q ₂₆₈	Q ₂₆₉	Q ₂₇₀	Q ₂₇₁	Q ₂₇₂	Q ₂₇₃	Q ₂₇₄	Q ₂₇₅	Q ₂₇₆	Q ₂₇₇	Q ₂₇₈	Q ₂₇₉	Q ₂₈₀	Q ₂₈₁	Q ₂₈₂	Q ₂₈₃	Q ₂₈₄	Q ₂₈₅	Q ₂₈₆	Q ₂₈₇	Q ₂₈₈	Q ₂₈₉	Q ₂₉₀	Q ₂₉₁	Q ₂₉₂	Q ₂₉₃	Q ₂₉₄	Q ₂₉₅	Q ₂₉₆	Q ₂₉₇	Q ₂₉₈	Q ₂₉₉	Q ₃₀₀	Q ₃₀₁	Q ₃₀₂	Q ₃₀₃	Q ₃₀₄	Q ₃₀₅	Q ₃₀₆	Q ₃₀₇	Q ₃₀₈	Q ₃₀₉	Q ₃₁₀	Q ₃₁₁	Q ₃₁₂	Q ₃₁₃	Q ₃₁₄	Q ₃₁₅	Q ₃₁₆	Q ₃₁₇	Q ₃₁₈	Q ₃₁₉	Q ₃₂₀	Q ₃₂₁	Q ₃₂₂	Q ₃₂₃	Q ₃₂₄	Q ₃₂₅	Q ₃₂₆	Q ₃₂₇	Q ₃₂₈	Q ₃₂₉	Q ₃₃₀	Q ₃₃₁	Q ₃₃₂	Q ₃₃₃	Q ₃₃₄	Q ₃₃₅	Q ₃₃₆	Q ₃₃₇	Q ₃₃₈	Q ₃₃₉	Q ₃₄₀	Q ₃₄₁	Q ₃₄₂	Q ₃₄₃	Q ₃₄₄	Q ₃₄₅	Q ₃₄₆	Q ₃₄₇	Q ₃₄₈	Q ₃₄₉	Q ₃₅₀	Q ₃₅₁	Q ₃₅₂	Q ₃₅₃	Q ₃₅₄	Q ₃₅₅	Q ₃₅₆	Q ₃₅₇	Q ₃₅₈	Q ₃₅₉	Q ₃₆₀	Q ₃₆₁	Q ₃₆₂	Q ₃₆₃	Q ₃₆₄	Q ₃₆₅	Q ₃₆₆	Q ₃₆₇	Q ₃₆₈	Q ₃₆₉	Q ₃₇₀	Q ₃₇₁	Q ₃₇₂	Q ₃₇₃	Q ₃₇₄	Q ₃₇₅	Q ₃₇₆	Q ₃₇₇	Q ₃₇₈	Q ₃₇₉	Q ₃₈₀	Q ₃₈₁	Q ₃₈₂	Q ₃₈₃	Q ₃₈₄	Q ₃₈₅	Q ₃₈₆	Q ₃₈₇	Q ₃₈₈	Q ₃₈₉	Q ₃₉₀	Q ₃₉₁	Q ₃₉₂	Q ₃₉₃	Q ₃₉₄	Q ₃₉₅	Q ₃₉₆	Q ₃₉₇	Q ₃₉₈	Q ₃₉₉	Q ₄₀₀	Q ₄₀₁	Q ₄₀₂	Q ₄₀₃	Q ₄₀₄	Q ₄₀₅	Q ₄₀₆	Q ₄₀₇	Q ₄₀₈	Q ₄₀₉	Q ₄₁₀	Q ₄₁₁	Q ₄₁₂	Q ₄₁₃	Q ₄₁₄	Q ₄₁₅	Q ₄₁₆	Q ₄₁₇	Q ₄₁₈	Q ₄₁₉	Q ₄₂₀	Q ₄₂₁	Q ₄₂₂	Q ₄₂₃	Q ₄₂₄	Q ₄₂₅	Q ₄₂₆	Q ₄₂₇	Q ₄₂₈	Q ₄₂₉	Q ₄₃₀	Q ₄₃₁	Q ₄₃₂	Q ₄₃₃	Q ₄₃₄	Q ₄₃₅	Q ₄₃₆	Q ₄₃₇	Q ₄₃₈	Q ₄₃₉	Q ₄₄₀	Q ₄₄₁	Q ₄₄₂	Q ₄₄₃	Q ₄₄₄	Q ₄₄₅	Q ₄₄₆	Q ₄₄₇	Q ₄₄₈	Q ₄₄₉	Q ₄₅₀	Q ₄₅₁	Q ₄₅₂	Q ₄₅₃	Q ₄₅₄	Q ₄₅₅	Q ₄₅₆	Q ₄₅₇	Q ₄₅₈	Q ₄₅₉	Q ₄₆₀	Q ₄₆₁	Q ₄₆₂	Q ₄₆₃	Q ₄₆₄	Q ₄₆₅	Q ₄₆₆	Q ₄₆₇	Q ₄₆₈	Q ₄₆₉	Q ₄₇₀	Q ₄₇₁	Q ₄₇₂	Q ₄₇₃	Q ₄₇₄	Q ₄₇₅	Q ₄₇₆	Q ₄₇₇	Q ₄₇₈	Q ₄₇₉	Q ₄₈₀	Q ₄₈₁	Q ₄₈₂	Q ₄₈₃	Q ₄₈₄	Q ₄₈₅	Q ₄₈₆	Q ₄₈₇	Q ₄₈₈	Q ₄₈₉	Q ₄₉₀	Q ₄₉₁	Q ₄₉₂	Q ₄₉₃	Q ₄₉₄	Q ₄₉₅	Q ₄₉₆	Q ₄₉₇	Q ₄₉₈	Q ₄₉₉	Q ₅₀₀	Q ₅₀₁	Q ₅₀₂	Q ₅₀₃	Q ₅₀₄	Q ₅₀₅	Q ₅₀₆	Q ₅₀₇	Q ₅₀₈	Q ₅₀₉	Q ₅₁₀	Q ₅₁₁	Q ₅₁₂	Q ₅₁₃	Q ₅₁₄	Q ₅₁₅	Q ₅₁₆	Q ₅₁₇	Q ₅₁₈	Q ₅₁₉	Q ₅₂₀	Q ₅₂₁	Q ₅₂₂	Q ₅₂₃	Q ₅₂₄	Q ₅₂₅	Q ₅₂₆	Q ₅₂₇	Q ₅₂₈	Q ₅₂₉	Q ₅₃₀	Q ₅₃₁	Q ₅₃₂	Q ₅₃₃	Q ₅₃₄	Q ₅₃₅	Q ₅₃₆	Q ₅₃₇	Q ₅₃₈	Q ₅₃₉	Q ₅₄₀	Q ₅₄₁	Q ₅₄₂	Q ₅₄₃	Q ₅₄₄	Q ₅₄₅	Q ₅₄₆	Q ₅₄₇	Q ₅₄₈	Q ₅₄₉	Q ₅₅₀	Q ₅₅₁	Q ₅₅₂	Q ₅₅₃	Q ₅₅₄	Q ₅₅₅	Q ₅₅₆	Q ₅₅₇	Q ₅₅₈	Q ₅₅₉	Q ₅₆₀	Q ₅₆₁	Q ₅₆₂	Q ₅₆₃	Q ₅₆₄	Q ₅₆₅	Q ₅₆₆	Q ₅₆₇	Q ₅₆₈	Q ₅₆₉	Q ₅₇₀	Q ₅₇₁	Q ₅₇₂	Q ₅₇₃	Q ₅₇₄	Q ₅₇₅	Q ₅₇₆	Q ₅₇₇	Q ₅₇₈	Q ₅₇₉	Q ₅₈₀	Q ₅₈₁	Q ₅₈₂	Q ₅₈₃	Q ₅₈₄	Q ₅₈₅	Q ₅₈₆	Q ₅₈₇	Q ₅₈₈	Q ₅₈₉	Q ₅₉₀	Q ₅₉₁	Q ₅₉₂	Q ₅₉₃	Q ₅₉₄	Q ₅₉₅	Q ₅₉₆	Q ₅₉₇	Q ₅₉₈	Q ₅₉₉	Q ₆₀₀	Q ₆₀₁	Q ₆₀₂	Q ₆₀₃	Q ₆₀₄	Q ₆₀₅	Q ₆₀₆	Q ₆₀₇	Q ₆₀₈	Q ₆₀₉	Q ₆₁₀	Q ₆₁₁	Q ₆₁₂	Q ₆₁₃	Q ₆₁₄	Q ₆₁₅	Q ₆₁₆	Q ₆₁₇	Q ₆₁₈	Q ₆₁₉	Q ₆₂₀	Q ₆₂₁	Q ₆₂₂	Q ₆₂₃	Q ₆₂₄	Q ₆₂₅	Q ₆₂₆	Q ₆₂₇	Q ₆₂₈	Q ₆₂₉	Q ₆₃₀	Q ₆₃₁	Q ₆₃₂	Q ₆₃₃	Q ₆₃₄	Q ₆₃₅	Q ₆₃₆	Q ₆₃₇	Q ₆₃₈	Q ₆₃₉	Q ₆₄₀	Q ₆₄₁	Q ₆₄₂	Q ₆₄₃	Q ₆₄₄	Q ₆₄₅	Q ₆₄₆	Q ₆₄₇	Q ₆₄₈	Q ₆₄₉	Q ₆₅₀	Q ₆₅₁	Q ₆₅₂	Q ₆₅₃	Q ₆₅₄	Q ₆₅₅	Q ₆₅₆	Q ₆₅₇	Q ₆₅₈	Q ₆₅₉	Q ₆₆₀	Q ₆₆₁	Q ₆₆₂	Q ₆₆₃	Q ₆₆₄	Q ₆₆₅	Q ₆₆₆	Q ₆₆₇	Q ₆₆₈	Q ₆₆₉	Q ₆₇₀	Q ₆₇₁	Q ₆₇₂	Q ₆₇₃	Q ₆₇₄	Q ₆₇₅	Q ₆₇₆	Q ₆₇₇	Q ₆₇₈	Q ₆₇₉	Q ₆₈₀	Q ₆₈₁	Q ₆₈₂	Q ₆₈₃	Q ₆₈₄	Q ₆₈₅	Q ₆₈₆	Q ₆₈₇	Q ₆₈₈	Q ₆₈₉	Q ₆₉₀	Q ₆₉₁	Q ₆₉₂	Q ₆₉₃	Q ₆₉₄	Q ₆₉₅	Q ₆₉₆	Q ₆₉₇	Q ₆₉₈	Q ₆₉₉	Q ₇₀₀	Q ₇₀₁	Q ₇₀₂	Q ₇₀₃	Q ₇₀₄	Q ₇₀₅	Q ₇₀₆	Q ₇₀₇	Q ₇₀₈	Q ₇₀₉	Q ₇₁₀	Q ₇₁₁	Q ₇₁₂	Q ₇₁₃	Q ₇₁₄	Q ₇₁₅	Q ₇₁₆	Q ₇₁₇	Q ₇₁₈	Q ₇₁₉	Q ₇₂₀	Q ₇₂₁	Q ₇₂₂	Q ₇₂₃	Q ₇₂₄	Q ₇₂₅	Q ₇₂₆	Q ₇₂₇	Q ₇₂₈	Q ₇₂₉	Q ₇₃₀	Q ₇₃₁	Q ₇₃₂	Q ₇₃₃	Q ₇₃₄	Q ₇₃₅	Q ₇₃₆	Q ₇₃₇	Q ₇₃₈	Q ₇₃₉	Q ₇₄₀	Q ₇₄₁	Q ₇₄₂	Q ₇₄₃	Q ₇₄₄	Q ₇₄₅	Q ₇₄₆	Q ₇₄₇	Q ₇₄₈	Q ₇₄₉	Q ₇₅₀	Q ₇₅₁	Q ₇₅₂	Q ₇₅₃	Q ₇₅₄	Q ₇₅₅	Q ₇₅₆	Q ₇₅₇	Q ₇₅₈	Q ₇₅₉	Q ₇₆₀	Q ₇₆₁	Q ₇₆₂	Q ₇₆₃	Q ₇₆₄	Q ₇₆₅	Q ₇₆₆	Q ₇₆₇	Q ₇₆₈	Q ₇₆₉	Q ₇₇₀	Q ₇₇₁	Q ₇₇₂	Q ₇₇₃	Q ₇₇₄	Q ₇₇₅	Q ₇₇₆	Q ₇₇₇	Q ₇₇₈	Q ₇₇₉	Q ₇₈₀	Q ₇₈₁	Q ₇₈₂	Q ₇₈₃	Q ₇₈₄	Q ₇₈₅	Q ₇₈₆	Q ₇₈₇	Q ₇₈₈	Q ₇₈₉	Q ₇₉₀	Q ₇₉₁	Q ₇₉₂	Q ₇₉₃	Q ₇₉₄	Q ₇₉₅	Q ₇₉₆	Q ₇₉₇	Q ₇₉₈	Q ₇₉₉	Q ₈₀₀	Q ₈₀₁	Q ₈₀₂	Q ₈₀₃	Q ₈₀₄	Q ₈₀₅	Q ₈₀₆	Q ₈₀₇	Q ₈₀₈	Q ₈₀₉	Q ₈₁₀	Q ₈₁₁	Q ₈₁₂	Q ₈₁₃	Q ₈₁₄	Q ₈₁₅	Q ₈₁₆	Q ₈₁₇	Q ₈₁₈	Q ₈₁₉	Q ₈₂₀	Q ₈₂₁	Q ₈₂₂	Q ₈₂₃	Q ₈₂₄	Q ₈₂₅	Q ₈₂₆	Q ₈₂₇	Q ₈₂₈	Q ₈₂₉	Q ₈₃₀	Q ₈₃₁	Q ₈₃₂	Q ₈₃₃	Q ₈₃₄	Q ₈₃₅	Q ₈₃₆	Q ₈₃₇	Q ₈₃₈	Q ₈₃₉	Q ₈₄₀	Q ₈₄₁	Q ₈₄₂	Q ₈₄₃	Q ₈₄₄	Q ₈₄₅	Q ₈₄₆	Q ₈₄₇	Q ₈₄₈	Q ₈₄₉	Q ₈₅₀	Q ₈₅₁	Q ₈₅₂	Q ₈₅₃	Q ₈₅₄	Q ₈₅₅	Q ₈₅₆	Q ₈₅₇	Q ₈₅₈	Q ₈₅₉	Q ₈₆₀	Q ₈₆₁	Q ₈₆₂	Q ₈₆₃	Q ₈₆₄	Q ₈₆₅	Q ₈₆₆	Q ₈₆₇	Q ₈₆₈	Q ₈₆₉	Q ₈₇₀	Q ₈₇₁	Q ₈₇₂	Q ₈₇₃	Q ₈₇₄	Q ₈₇₅	Q ₈₇₆	Q ₈₇₇	Q ₈₇₈	Q ₈₇₉	Q ₈₈₀	Q ₈₈₁	Q ₈₈₂	Q ₈₈₃	Q ₈₈₄	Q<
-------------------------------	--------------------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	----

GAME UNIT - INITIAL STAGE
ANALYSIS OF DILUTION / AUGMENTATION FLOWS
UNITS - ACRE FEET

STAGE POSITION	- INITIAL MONTHLY VALUES -												AVERAGE ANNUAL VALUES
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
STAGE 1-1A	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STAGE 1-1B	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STAGE 1-1C	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STAGE 1-1D	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STAGE 1-1E	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STAGE 1-1F	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STAGE 1-1G	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STAGE 1-1H	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STAGE 1-1I	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STAGE 1-1J	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STAGE 1-1K	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STAGE 1-1L	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STAGE 1-1M	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STAGE 1-1N	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STAGE 1-1O	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STAGE 1-1P	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STAGE 1-1Q	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STAGE 1-1R	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STAGE 1-1S	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STAGE 1-1T	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STAGE 1-1U	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STAGE 1-1V	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STAGE 1-1W	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STAGE 1-1X	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STAGE 1-1Y	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
STAGE 1-1Z	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TABLE 7
Sheet 2 of 2

Table 9
COMPARISON OF JAMES RIVER QUANTITY AND QUALITY PARAMETERS AT JAMES DIVERSION DAM 1/
SHOWING IMPACTS OF OAHE UNIT RETURN FLOW AND AUGMENTATION RELEASES ON NATURAL FLOW
(MINIMUM FLOW CONDITIONS 1959)

Month	James River natural				James River resultant (natural, irrigation return, and augmentation flows)											
	Operation year 3				Operation year 19				Operation year 35				Operation year 35			
	Flow A.F.	NA ppm	SO ₄ ppm	TDS ppm	Flow A.F.	NA ppm	SO ₄ ppm	TDS ppm	Flow A.F.	NA ppm	SO ₄ ppm	TDS ppm	Flow A.F.	NA ppm	SO ₄ ppm	TDS ppm
Jan.	0	237	514	1,534	3,800	242	504	1,553	16,800	288	843	1,890	16,800	227	787	1,725
Feb.	0	289	689	1,975	3,500	224	465	1,460	13,700	274	800	1,804	13,700	216	746	1,646
Mar.	300	229	480	1,678	3,800	217	452	1,437	13,200	267	775	1,765	13,200	213	723	1,617
Apr.	100	135	254	962	4,500	173	374	1,176	100	168	488	1,177	100	151	499	1,177
May	0	136	290	970	5,400	149	334	1,042	0	164	475	1,176	0	146	475	1,158
June	0	130	298	901	6,000	137	312	978	0	154	446	1,126	0	125	400	1,010
July	0	149	358	974	6,200	144	331	1,020	0	161	468	1,168	0	134	432	1,075
Aug.	0	197	458	1,070	5,800	175	392	1,177	6,800	166	487	1,177	3,000	149	495	1,177
Sep.	0	243	557	1,260	8,200	181	408	1,176	45,700	169	500	1,176	39,600	151	509	1,176
Oct.	0	210	480	1,189	8,900	184	411	1,176	48,700	169	501	1,176	42,300	151	511	1,177
Nov.	0	198	494	1,244	5,600	290	614	1,713	23,100	303	910	(2,004)	23,100	237	834	1,811
Dec.	0	195	483	1,269	5,200	275	579	1,632	20,400	297	892	(1,968)	20,400	233	821	1,783

1/ Flows at James Diversion Dam are equivalent to flows at Huron, South Dakota.

Table 10
COMPARISON OF JAMES RIVER QUANTITY AND QUALITY PARAMETERS AT JAMES DIVERSION DAM 1/
SHOWING IMPACTS OF QAHE UNIT RETURN FLOW AND AUGMENTATION RELEASES ON NATURAL FLOW
(MAXIMUM FLOW CONDITIONS 1969)

Month	James River natural				James River resultant (natural, irrigation return, and augmentation flows)											
	Operation year 13				Operation year 29				Operation year 45				Operation year 45			
	Flow A.F.	NA ppm	SO ₄ ppm	TDS ppm	Flow A.F.	NA ppm	SO ₄ ppm	TDS ppm	Flow A.F.	NA ppm	SO ₄ ppm	TDS ppm	Flow A.F.	NA ppm	SO ₄ ppm	TDS ppm
Jan.	1,500	214	430	1,508	16,500	292	745	1,811	18,300	246	840	1,832	18,300	200	663	1,544
Feb.	500	241	530	1,728	12,800	280	721	1,740	14,200	238	818	1,770	14,200	192	642	1,486
Mar.	4,200	223	462	1,585	15,800	261	644	1,671	17,100	230	724	1,701	17,000	196	592	1,486
Apr.	327,900	26	78	253	311,700	33	97	300	312,700	33	102	305	312,700	31	97	296
May	207,800	35	84	387	196,800	46	115	455	197,600	45	122	461	197,600	43	115	449
June	65,600	44	94	518	58,500	70	171	655	59,200	68	184	666	59,200	64	169	641
July	58,700	67	122	606	51,800	96	217	770	52,600	92	233	782	52,600	86	212	747
Aug.	45,600	77	130	673	67,400	124	283	930	68,600	115	304	938	68,600	104	263	872
Sep.	11,800	82	144	770	48,900	172	448	1,176	48,900	149	481	1,177	38,400	145	452	1,177
Oct.	4,400	93	183	800	50,300	176	474	1,176	48,900	152	508	1,176	37,900	148	484	1,177
Nov.	7,900	100	213	906	30,100	274	731	1,778	31,000	218	739	1,677	31,000	179	578	1,421
Dec.	8,600	97	193	890	28,200	256	678	1,687	29,000	207	685	1,597	29,000	171	543	1,370

1/ Flows at James Diversion Dam are equivalent to flows at Huron, South Dakota.

GAME UNIT - INITIAL STAGE
DETAILED MONTHLY JAMES RIVER SALINITY CONCENTRATION AT MOUTH, S.D.
UNITS = ppm

RELATIVE CONCENTRATION	YEAR OF CONCENTRATION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1957	2340	513	538	107	236	270	277	334	348	353	475	442
2	1958	441	433	317	181	262	264	264	261	260	268	340	547
3	1959	527	476	501	52	154	154	281	385	436	411	618	578
4	1960	567	551	382	382	276	289	337	330	446	438	675	628
5	1961	468	477	418	355	482	282	286	429	437	438	627	565
6	1962	517	517	517	352	289	276	231	286	431	433	623	614
7	1963	544	507	507	377	377	377	377	377	422	422	622	622
8	1964	502	502	502	502	502	502	502	502	502	502	502	502
9	1965	502	502	502	502	502	502	502	502	502	502	502	502
10	1966	502	502	502	502	502	502	502	502	502	502	502	502
11	1967	502	502	502	502	502	502	502	502	502	502	502	502
12	1968	502	502	502	502	502	502	502	502	502	502	502	502
13	1969	502	502	502	502	502	502	502	502	502	502	502	502
14	1970	502	502	502	502	502	502	502	502	502	502	502	502
15	1971	502	502	502	502	502	502	502	502	502	502	502	502
16	1972	502	502	502	502	502	502	502	502	502	502	502	502
17	1973	502	502	502	502	502	502	502	502	502	502	502	502
18	1974	502	502	502	502	502	502	502	502	502	502	502	502
19	1975	502	502	502	502	502	502	502	502	502	502	502	502
20	1976	502	502	502	502	502	502	502	502	502	502	502	502
21	1977	502	502	502	502	502	502	502	502	502	502	502	502
22	1978	502	502	502	502	502	502	502	502	502	502	502	502
23	1979	502	502	502	502	502	502	502	502	502	502	502	502
24	1980	502	502	502	502	502	502	502	502	502	502	502	502
25	1981	502	502	502	502	502	502	502	502	502	502	502	502
26	1982	502	502	502	502	502	502	502	502	502	502	502	502
27	1983	502	502	502	502	502	502	502	502	502	502	502	502
28	1984	502	502	502	502	502	502	502	502	502	502	502	502
29	1985	502	502	502	502	502	502	502	502	502	502	502	502
30	1986	502	502	502	502	502	502	502	502	502	502	502	502
31	1987	502	502	502	502	502	502	502	502	502	502	502	502
32	1988	502	502	502	502	502	502	502	502	502	502	502	502
33	1989	502	502	502	502	502	502	502	502	502	502	502	502
34	1990	502	502	502	502	502	502	502	502	502	502	502	502
35	1991	502	502	502	502	502	502	502	502	502	502	502	502
36	1992	502	502	502	502	502	502	502	502	502	502	502	502
37	1993	502	502	502	502	502	502	502	502	502	502	502	502
38	1994	502	502	502	502	502	502	502	502	502	502	502	502
39	1995	502	502	502	502	502	502	502	502	502	502	502	502
40	1996	502	502	502	502	502	502	502	502	502	502	502	502
41	1997	502	502	502	502	502	502	502	502	502	502	502	502
42	1998	502	502	502	502	502	502	502	502	502	502	502	502
43	1999	502	502	502	502	502	502	502	502	502	502	502	502
44	2000	502	502	502	502	502	502	502	502	502	502	502	502
45	2001	502	502	502	502	502	502	502	502	502	502	502	502
46	2002	502	502	502	502	502	502	502	502	502	502	502	502
47	2003	502	502	502	502	502	502	502	502	502	502	502	502
48	2004	502	502	502	502	502	502	502	502	502	502	502	502
49	2005	502	502	502	502	502	502	502	502	502	502	502	502
50	2006	502	502	502	502	502	502	502	502	502	502	502	502
51	2007	502	502	502	502	502	502	502	502	502	502	502	502
52	2008	502	502	502	502	502	502	502	502	502	502	502	502
53	2009	502	502	502	502	502	502	502	502	502	502	502	502
54	2010	502	502	502	502	502	502	502	502	502	502	502	502
55	2011	502	502	502	502	502	502	502	502	502	502	502	502
56	2012	502	502	502	502	502	502	502	502	502	502	502	502

TABLE B-6
Sheet 1 of 2

GAME UNIT - INITIAL STAGE
 HESAL UNIT HUNTING JAMES HAWES FOR CONCENTRATION AT HAWES, S.D.
 JANUARY 1950

DATE OF HUNTING YEAR	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915	2916	2917	2918	2919	2920	2921	2922	2923	2924	2925	2926	2927	2928	2929	2930	2931	2932	2933	2934	2935	2936	2937	2938	2939	2940	2941	2942	2943	2944	2945	2946	2947	2948	2949	2950	2951	2952	2953	2954	2955	2956	2957	2958	2959	2960	2961	2962	2963	2964	2965	2966	2967	2968	2969	2970	2971	2972	2973	2974	2975	2976	2977	2978	2979	2980	2981	2982	2983	2984	2985	2986	2987	2988	2989	2990	2991	2992	2993	2994	2995	2996	2997	2998	2999	3000	3001	3002	3003	3004	3005	3006	3007	3008	3009	3010	3011	3012	3013	3014	3015	3016	3017	3018	3019	3020	3021	3022	3023	3024	3025	3026	3027	3028	3029	3030	3031	3032	3033	3034	3035	3036	3037	3038	3039	3040	3041	3042	3043	3044	3045	3046	3047	3048	3049	3050	3051	3052	3053	3054	3055	3056	3057	3058	3059	3060	3061	3062	3063	3064	3065	3066	3067	3068	3069	3070	3071	3072	3073	3074	3075	3076	3077	3078	3079	3080	3081	3082	3083	3084	3085	3086	3087	3088	3089	3090	3091	3092	3093	3094	3095	3096	3097	3098	3099	3100	3101	3102	3103	3104	3105	3106	3107	3108	3109	3110	3111	3112	3113	3114	3115	3116	3117	3118	3119	3120	3121	3122	3123	3124	3125	3126	3127	3128	3129	3130	3131	3132	3133	3134	3135	3136	3137	3138	3139	3140	3141	3142	3143	3144	3145	3146	3147	3148	3149	3150	3151	3152	3153	3154	3155	3156	3157	3158	3159	3160	3161	3162	3163	3164	3165	3166	3167	3168	3169	3170	3171	3172	3173	3174	3175	3176	3177	3178	3179	3180	3181	3182	3183	3184	3185	3186	3187	3188	3189	3190	3191	3192	3193	3194	3195	3196	3197	3198	3199	3200	3201	3202	3203	3204	3205	3206	3207	3208	3209	3210	3211	3212	3213	3214	3215	3216	3217	3218	3219	3220	3221	3222	3223	3224	3225	3226	3227	3228	3229	3230	3231	3232	3233	3234	3235	3236	3237	3238	3239	3240	3241	3242	3243	3244	3245	3246	3247	3248	3249	3250	3251	3252	3253	3254	3255	3256	3257	3258	3259	3260	3261	3262	3263	3264	3265	3266	3267	3268	3269	3270	3271	3272	3273	3274	3275	3276	3277	3278	3279	3280	3281	3282	3283	3284	3285	3286	3287	3288	3289	3290	3291	3292	3293	3294	3295	3296	3297	3298	3299	3300	3301	3302	3303	3304	3305	3306
----------------------------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------

Senator MURKOWSKI. Thank you very much, Ms. Edie. We appreciate your presentation and your cooperation.

The next witness is David Sanford. Mr. Sanford, you may proceed.

**STATEMENT OF DAVID SANFORD, SOUTH DAKOTA CHAPTER,
WILDLIFE SOCIETY, BROOKINGS, S. DAK.**

Mr. SANFORD. Mr. Chairman, I am standing in for Spencer Vaa, who wasn't able to speak today. My name is David Sanford, and I live in Pierre. I am here representing the South Dakota chapter of the Wildlife Society.

The South Dakota chapter of the Wildlife Society is a nonprofit organization comprised of approximately 100 private individuals, nearly all of whom are professional wildlife resource managers employed by various conservation and wildlife oriented agencies and organizations.

Principal objectives of the Wildlife Society are: To develop and promote sound stewardship of wildlife resources and the environments upon which wildlife and man depend; to undertake an active role in preventing man-induced environmental degradation; and to increase awareness and appreciation of wildlife values.

The South Dakota chapter of the Wildlife Society feels that the Oahe project, as now authorized, would be detrimental to the wildlife resources of this State. Drainage of natural wetlands and channelization of the James River would cause great harm to the habitat needed by wildlife, and this damage cannot be adequately mitigated.

We need water development in this State, but not at the expense of wetland and riparian habitats.

South Dakota is blessed with some of the finest hunting and fishing in the United States, and each year over 100,000 of the State's 680,000 residents venture into the countryside and hunt the various species of game.

Game and the habitat needed to sustain game are very important to the people of this State. Many people choose to live here simply because of this abundance.

Any water projects should recognize this fact and plans should minimize habitat losses. A project that consumes almost as much land as the project facilities as it benefits is not acceptable.

The South Dakota chapter of the Wildlife Society feels that projects that incorporate pipelines to carry clean Missouri River water are a proper method of water development. Pipelines can carry water for both domestic, municipal and irrigation use, and will minimize the destruction of farmland and wildlife habitat.

Also, irrigation close to the existing reservoirs should be explored as a great potential exists in these areas.

With any water project, there is some alteration of wildlife habitat. If this alteration is of a destructive nature, then mitigation to replace the loss is in order in accordance with the Fish and Wildlife Coordination Act.

Unfortunately, experience has shown that this usually does not happen. Although it has been years since the construction of the Oahe Dam and Big Bend Dam, there still has not been provided one acre of wildlife mitigation land.

This lack of concern for wildlife needs has slowed meaningful water development in South Dakota. We believe the mitigation process for replacement of habitat should occur early in the design of this project.

In summary, the South Dakota chapter of the Wildlife Society agrees with the goal of the original Oahe project; that is, stabilize farm production and provide clean water for municipalities, but we do not agree with the design methods proposed to achieve those goals. We feel that the Oahe project should be deauthorized so that other projects more acceptable to the citizens of South Dakota can proceed.

Thank you very much, Senator.

Senator MURKOWSKI. Thank you very much, Mr. Sanford. We appreciate the views of the South Dakota chapter of the Wildlife Society and welcome your testimony.

Is Richard Madsen, vice-president of the Audubon Society present?
[No response.]

Senator MURKOWSKI. If not, we will proceed with the testimony of Father Leonard Kayser. Father Kayser is the director of the National Catholic Rural Life Conference. We welcome your testimony, Father.

**STATEMENT OF FATHER LEONARD KAYSER, ACTING DIRECTOR,
NATIONAL CATHOLIC RURAL LIFE CONFERENCE**

Father KAYSER. Thank you, Mr. Chairman. This past 15 months I have been the director for the National Catholic Rural Life Conference housed in Des Moines, Iowa. And also as Father Leonard Kayser, I retain my citizenship here in South Dakota and continue to be rural life director for the State of South Dakota chapter.

Today I heard a lot about a number of different development projects as substitutes for the now discredited Oahe project. We would give our highest priority in support of the proposed WEB pipeline that will supply thousands of people with potable water.

We give equal priority to the support of the Lower Brule Grass Rope irrigation project, if—and I strongly emphasize the if—this development is completely controlled by and for the benefits of the members of the tribe.

For far too long there has been a misunderstanding by the general public on just how much land was sacrificed by South Dakota by the impoundment of Missouri River waters. For years the figure of 500,000 acres has been bandied around. This is not accurate. A more accurate figure, as you heard earlier today, would be perhaps 334,000 acres.

The Corps of Engineers tables have shown that almost 40 percent of the land appropriated by the mainstem dams on the Missouri was Indian land and was never on the taxrolls of South Dakota. Indian people received an average payment of \$22 per acre for the land taken, and this included the inundation of tribal headquarters and settlements. In the case of the Lower Brule people, 36 percent of their land was taken, yet our Indian people have never been even on the bottom rung of the ladder in water development consideration.

We also support a West River aqueduct system if—and again I stress if—the water service were limited to the needs of West River towns and ranches and would not extend to out-of-State shipment. Funding would also be appropriate for the development of modest rural water systems from groundwater aquifers in southern South Dakota.

Crucial to South Dakota water development is an understanding of the necessity for deauthorization of the Oahe project. Secretary Watt, in a letter of July 10 of this year, wrote to our Senator Abdnor:

With regard to other matters of mutual interest, we recognize that the deauthorization of the Oahe Unit is a matter best left to the Congress to decide, but we do not intend to ask for construction appropriations if it is not deauthorized.

The Catholic Rural Life Conference concerns itself very basically with family farms and the land that supports rural communities. And important in this, of course, is justice and equity. It is for these reasons that we ask you to deauthorize the Oahe project.

I became involved personally in this back in 1972 when farmers of the area came to me asking for moral guidance in regard to this when they began receiving reports which cast more questions than gave answers. Also as I began trying to see the pros and cons of the project and study some of the project and studied some of the Garrison project in North Dakota, I also heard of the cavalier treatment of Bureau officials toward those folks, and we very soon found, I myself, when entering the Bureau offices in Huron, the same kind of cavalier treatment and abuse of human dignity.

The National Catholic Rural Life Conference has a long history of lobbying for and insisting that the Bureau of Reclamation live up to its mandate of protection of family farms with acreage limitation and residency requirements.

We heard something earlier here of the relationship to California. Dr. Paul Taylor, who is internationally known for his studies in water development, and in 1974, specifically as professor emeritus of the department of economics at the Berkeley campus, issued a deposition saying that:

Experience proves that where Bureau of Reclamation projects are built, and the customary non-enforcement of Section 5 of the Reclamation Act occurs, the projects tend to break up social systems based on the family farm, centralize the system of land ownership, increase the proportion of indigent persons in the region and reduce the economic welfare of the small and moderate landowner.

He is internationally known for his expertise on land reclamation.

The purpose of the land limitation and residence requirements is to insure that the enormous public expenditures in reclamation will not go in disproportionate share to a few individuals with large land holdings. Yet in the Oahe project, 600 farms would have each received a benefit of \$725,000, according to the Bureau 1977 review report.

Each of these farms concerned would have contributed an average of \$2.80 an acre in construction costs.

We believe that the above comments are germane in consideration of other large South Dakota irrigation projects considered in Senate bill 1553. We cannot possibly in good conscience support the Cendak project until it is proved that it would not be a warmed-up version of the Oahe project moved a few counties west.

At this point in time, some of the Cendak energetic supporters sound very much like the gung-ho proponents of the Oahe project during the 1960's. In the same vein, we could not support development of a 100,000-acre plan to irrigate the Garrison with flows into the James.

In 1955, South Dakota University economists considered the Belle Fourche project a failure. Can rehabilitation bring back ruined land into efficient production and at what cost and for how many units?

Irrigation directly out of the Missouri is workable. Private irrigators can be perfectly capable of developing moderate irrigation systems with modest help.

With the exception of the Grass Rope project, we feel that project pumping costs should reflect the real world costs today and not continue to place this financial burden on the backs of the majority of Missouri dam power users.

As pumping water for irrigation escalates, so will the costs of replacing lost power for the majority of South Dakotans and those in other States who depend on hydroelectric power.

We reiterate our strong support of WEB and other water systems which would serve large numbers of citizens and also the common good Missouri River power users, the national taxpayers, and most assuredly the farms in our own State.

I thank you.

[The prepared statement of Father Kayser follows:]

STATEMENT OF FATHER LEONARD KAYSER, ACTING DIRECTOR, NATIONAL CATHOLIC RURAL LIFE CONFERENCE

Thank you, Mr. Chairman, and members of the Subcommittee for the opportunity to testify today on Senate bill 1553. My name is Father Leonard Kayser, acting director of the National Catholic Rural Life Conference, headquartered in Des Moines. In addition to representing the Conference, I speak both as a citizen of South Dakota and Diocesan director of NCRLC in the Sioux Falls diocese of the Catholic church.

Several water development projects have been offered as substitutes for the now discredited Oahe project. We would give our highest priority in support of the proposed WEB pipeline that will supply thousands of people with potable water.

We give equal priority to the support of the Lower Brule Grass Rope Irrigation project and I strongly emphasize if this development is completely controlled by and for the benefit of members of the tribe. For far too long there has been a misunderstanding by the general public on just how much land was sacrificed by South Dakota by the impoundment of Missouri river waters. For years the figure of 500,000 acres has been bandied about. This is not accurate. Corps of Engineers tables have shown that almost 40 percent of the land appropriated by the main stem dams on the Missouri was Indian land and was never on the tax rolls of South Dakota. Indian people received an average payment of \$22 per acre for the land taken and this included the inundation of tribal headquarters and settlements. In the case of the Lower Brule people, 36 percent of their land was taken, yet our Indian people have never been even on the bottom rung of the ladder in water development consideration.

We could also support a West River Aqueduct system if the water service were limited to the needs of West River towns and ranches and would not extend to out of State shipment. Funding would also be appropriate for the development of modest rural water systems from ground water aquifers in southern South Dakota.

Crucial to South Dakota water development is an understanding of the necessity for deauthorization of the Oahe project. James Watt in a letter dated July 10, 1981, to Senator Abdnor said: "With regard to others of mutual interest, we recognize that the deauthorization of the Oahe Unit is a matter best left to the Congress to decide, but we do not intend to ask for construction appropriations if it is not deauthorized."

Our Conference concerns are with farm families and the land that supports them. Of primal importance to us is justice and equity. For all these reasons we ask you to deauthorize the Oahe Project. I must share with you my involvement over the years with those living within the project. I became involved

with farmers who questioned the wisdom of Oahe in February 1972. These farmers felt they had a moral responsibility to raise to public attention the important questions which were not being answered either by the agencies developing the project, or the political interests who were obtaining Federal funding of the project. Only with the issuance of the Definite Plan Report and the Environmental Impact Statement in 1973 did farmers begin realizing the actual impact the project would have. During the fifties and sixties a rosy picture had been projected through the media, and by proponents. I gave these farmers moral support in their concerns, and I have continued to do so. Neither they nor I were opposed to irrigation per se, but they had raised serious questions which heretofore had not been known.

My own personal contacts with the Bureau offices in Huron left something to be desired. There was almost a paranoid reaction by staff to any inquiry. I began to read all the pros and cons of the project. I listened personally to the experiences of farmers in the Garrison project and their cavalier treatment by Bureau officials. In North Dakota, farmers called the promoters of the Garrison project the "unholy trinity": (1) The Army Corps or the Bureau and promotional entities such as 84 holding banks in North Dakota, (2) the construction companies, and (3) the political forces who get the project funded. The same pattern seemed to be developing in South Dakota.

The National Catholic Rural Life Conference has a long history of lobbying and insistence that the Bureau of Reclamation live up to its mandate of protection of family farms with acreage limitation and residency requirements. In 1974, Dr. Paul S. Taylor, professor emeritus of the Department of Economics at the Berkeley campus of the University of California issued a deposition, saying that "Experience proves that where Bureau of Reclamation projects are built, and the customary non-enforcement of Section 5 of the Reclamation Act occurs, the projects tend to break up social systems based on the family farm, centralize the system of land ownership, increase the proportion of indigent persons in the region and reduce the economic welfare of the small and moderate landowner." Professor Taylor is known world wide for his expertise on land reclamation. The purpose of the land limitation and residence requirements is to insure that the enormous public expenditures in the reclamation will not go in disproportionate share to a few individuals with large land holdings. In the Oahe project 600 farms would have each received a benefit of \$725,655, according to the Bureau 1977 review report. Each of these farms would have only contributed an average of \$2.80 an acre per year for project construction costs.

We believe that the above comments are germane in consideration of other large South Dakota irrigation projects considered in Senate Bill 1553. We cannot possibly in good conscience support a Cendak project until it is proved that it would not be a warmed up version of the Oahe project moved a few counties west. At this point in time some of the Cendak energetic supporters sound very much like the gung ho proponents of the Oahe Project during the sixties. In this same vein, we could not support development of a 100,000 acre plan to irrigate from Garrison flows into the James, particularly in view of water quality considerations and damage to the whole James River system.

In 1955, South Dakota State University economists considered the Belle Fouché project a failure. Can rehabilitation bring back ruined land into efficient production and at what cost and for how many farm units?

Irrigation directly out of the Missouri is workable. Private irrigators can be perfectly capable of developing moderate irrigation systems with modest help.

With the exception of the Grass Rope project, we feel that project pumping costs should reflect the real world of costs today and not continue to place this financial burden on the backs of the majority of Missouri dam power users. As pumping water for irrigation escalates, so will the costs of replacing lost power for the majority of South Dakotans and those in other states who depend on hydroelectric power.

We reiterate our strong support of WEB, and other water systems which would serve large numbers of citizens and also the common good Missouri river power users, the national taxpayers, and most assuredly most farmers in our state.

Thank you.

Senator MURKOWSKI. Thank you, Father Kayser. Do you have—excuse me.

Senator ABDNOR. Mr. Chairman, I would just like to submit for the record, if I may, the copy of the letter of July 10 from Secretary Watt that the Father referred to.

Father KAYSER. It's in the Congressional Record of July 30.

Senator ABDNOR. Well, I have a copy of the letter. I would just like to have it submitted.

Senator MURKOWSKI. It will be included in the record and so noted.¹

Mrs. McKeown, do you have a statement?

STATEMENT OF MRS. GORDON McKEOWN, CATHOLIC RURAL LIFE BOARD

Mrs. McKEOWN. I will try to condense it just as much as I can.

Senator MURKOWSKI. I would appreciate it.

Mrs. McKEOWN. I hope this doesn't sound like low or high humor. All I would like to do, gentlemen—and by the way, thank you for letting me testify on bill 1553.

This is not an attack in person. All I want to do is explain a mine step which maybe has not come out. Of concern to us on the Sioux Falls Rural Life Board are the feasibilities of large irrigation development per the Cendak and James River.

Our favorite economist, a world-renowned one, Dr. Harold Breimyer of the University of Missouri, just last week addressed a group on prospects for agriculture. And he began his talk with an excerpt from W. S. Gilbert's "H.M.S. Pinafore":

"Things are seldom what they seem,
Skim milk masquerades as cream;
Highlows pass as patent leather.
Jackdaws strut in peacock's feather.
Black sheep dwell in every fold;
and all that glitters is not gold."

Most of us now know that the Oahe project was not what it seemed, and surely all that glitters in huge irrigation plans is not gold. After years of intense study of many Bureau of Reclamation projects, I surely conclude that many of the benefits claimed for reclamation irrigation development sadly turn out to be skim milk for the majority and cream for a few.

We are very concerned that cost/benefit ratios, feasibility studies for proposed projects, such as Cendak, will follow the same pattern that the Bureau of Reclamation has practiced to these many years. Let me briefly explain a few economic disasters in planning the Oahe project. And I really kid you not, because I have the documentation here.

If one goes back to the first economic feasibility reports in the early 1960's, you will find the ludicrous farm budget composite. For example, we have a project farm would sell 197 pounds of chicken under dry land farming, but only 151 pounds under irrigation; a loss of \$46 annually.

On the other hand, the average farm unit in the project would sell 69 pounds of butterfat as opposed to 45 pounds additional under irrigated farming; a whopping gain of \$24. Now this sounds more

¹ See p. 9.

like—now, this sounds more like a subsistence project under the FFA in Arkansas in the 1930's.

But let us go forward in time to the last 1960's. The Bureau was still claiming that sugar beets could be the main cash crop in spite of the fact that there were no facilities to refine the beets. The Belle Fourche had failed in their attempts at sugar beet production, and southeast Dakota beet farmers were about to have a street auction of their sugar beet machinery at Centerville.

We will not digress here on many of the fallacies of the 1971 definite plan report. Let us instead take a look at the progress the Bureau made in redefining and computing its cost/benefit schedule.

But 1976-77, the Bureau decided perhaps 94 percent of parity prices for the life of the project were a little unrealistic. I believe they lowered the price level to an index of 76, but lo and behold, the yield project for corn, as an example, jumped from a mere 82 bushels an acre to 152 bushels. And this, gentlemen, would be the average.

Why hasn't the Bureau used crop average yields on other reclamation projects to prove out projected benefits. Would that be too obvious? Apparently so, for now the Bureau is using the proposed Grass Rope feasibility report to extrapolate their yields. Never mind that the lower Brule people are in an area of cattle grazing and Cendak people are in the area of grainery.

Midst the dozens of what one could term "anomalies," how does one rationalize the following: One cost against the project is the 70,000 acres of land taken out of production for canals, reservoirs, et cetera.

Senator MURKOWSKI. Mrs. McKeown, could I ask you to summarize your remarks?

Mrs. McKEOWN. Yes. Can I just finish the sentence?

This loss is listed as an annual cost of \$568,000 for these 70,000 acres of production. That's \$8 an acre that that land produces a year. I wonder how many farmers in this project use their land to produce this little.

Good economics would preclude, it would seem to us, to produce additional millions of bushels of corn that you legislators have to face getting rid of. And we will send you precisely a very tidy list of other anomalies that we feel were in the planning.

Thank you so much.

[The prepared statement of Mrs. McKeown follows:]

STATEMENT OF MRS. GORDON McKEOWN, CATHOLIC RURAL LIFE BOARD

Thank you, gentlemen, for the opportunity to testify on Senate Bill 1553. We of the Catholic Rural Life Board of the Diocese of Sioux Falls, support the testimony of Father Leonard Kayser, our director, and that of Esther Edie of the South Dakota Resource Coalition. My name is Mrs. Gordon McKeown, farm wife. My duties on our Rural Life board are in the field of economics. Of concern to us are proposals in this legislation for studying the feasibility of large scale irrigation development per the CENDAK and James River developments.

Our favorite economist, a world-renowned one, Dr. Harold Breimyer of the University of Missouri, just last week addressed a group on prospects for agriculture. He began his talk with an excerpt from W. S. Gilbert's "H.M.S. Pinafore":

Things are seldom what they seem,
Skim milk masquerades as cream;
Highlows pass as patent leathers;
Jackdaws strut in peacock's feathers.
Black sheep dwell in every fold;
All that glitters is not gold.

Most of us now know that the Oahe project was not what it seemed, and surely all that glitters in huge irrigation plans is not gold. After years of intense study of many Bureau of Reclamation projects, I surely conclude that many of the benefits claimed for Reclamation irrigation development sadly turn out to be skim milk for the majority and cream for a few.

We are very concerned that cost/benefit ratios, feasibility studies for proposed projects such as CENDAK will follow the same pattern that the Bureau of Reclamation has practiced for these many years. Let me briefly explain a few economic disasters in planning the Oahe project.

If one goes back to the first economic feasibility reports, you will find the ludicrous farm budget composite. For example, the average project farm would sell 197 pounds of chicken, under dry land farming, but only 151 pounds under irrigation, a loss of 46 dollars annually. On the other hand the average farm unit in the project would sell 69 pounds of butterfat as opposed to 45 pounds under dryland conditions, a whopping gain of 24 dollars. Let us go forward in time, to the late sixties. The Bureau was still claiming that sugar beets would be the main cash crop, in spite of the fact that there were no facilities to refine the beets, the Belle Fourche irrigators had failed in their attempts at sugar beet production, and S.E. Dakota beet farmers were about to have a street auction of their sugar beet machinery at Centerville.

We will not digress here on many of the fallacies of the 1971 Definite Plan Report. Let us instead take a look at the progress the Bureau made in redefining and computing its cost/benefit schedule. By 1976-77, the Bureau decided perhaps 94 percent of parity prices for the life of the project were a little unrealistic. I believe they lowered the price level to an index of 76, but lo and behold, the yield project for corn as an example, jumped from a mere 82 bushels an acre to 132 bushels, and this would be an average.

Why hasn't the Bureau used crop average yields on other reclamation projects to prove out projected benefits. Would that be too obvious? Apparently so, for now the Bureau is using the proposed Grass Rope Feasibility Report to extrapolate yields. Never mind that the Lower Brule people are in an area of cattle grazing, and Cendak people would be grain farmers.

Midst the dozens of what one could term anomalies, how does one rationalize the following. A cost against the project is 70,000 acres of land. The value of production from this land which would have been taken for canals, reservoirs, etc. is listed as an annual cost of \$568,000. Broken down, this means that farm land was only worth an annual rate of \$8.00 an acre in production terms. Is that all average farm land in the Oahe project under dry land circumstances would produce a year—just \$8.00 worth an acre? Anyway, this low acreage loss made the cost/benefit ratio look better, and how many farmers in the project knew their land was worth so little, production-wise?

The above are only a few of the distortions that occurred in the Oahe Planning process. Good economics would also surely preclude adding more millions of bushels of corn that you legislators have to worry about disposing of, or pay additional subsidies to other farmers who suffer from disastrous price losses because of escalating corn surpluses.

John Saylor, ranking Republican member of the Committee on Interior and Insular Affairs back in 1964, addressing a Farm Bureau national natural resources conference commented:

"When the reclamation program first began, the irrigators who would benefit directly were required to repay the total allocated costs in a 10-year period without interest. But, through a series of subsequent acts of Congress, we have now arrived at this point where they repay only a small portion of the irrigation costs allocation still without interest, in 50 years plus a 10 year development period There are other facets of a needed reclamation program for the Bureau of Reclamation that will be necessary to save this activity from total repudiation. Let's hope it is not too late to begin."

And so, in the spirit of insisting that a reclamation program for the Bureau of Reclamation begin immediately before the bureaucracy participates in planning a CENDAK or any other large irrigation project for South Dakota we recommended your subcommittee consider legislation that would bring this branch of the federal government into the real world of economic planning for the future.

We can no longer continue making agriculture more and more energy and capital intensive. Appropriate technology, appropriate enterprises must be the norm for the future.

Thank you.

Senator MURKOWSKI. Thank you, Mrs. McKeown.

Senator Abdnor, do you have any questions?

Senator ABDNOR. No.

Senator MURKOWSKI. Thank you. We will excuse the panel. We will now proceed and ask the projects panel to present their testimony. The first witness is Miss Cathy Wernke, coordinator of Landing Creek and Whetstone Bay projects, Gregory, S. Dak.; Mr. Terry Yexley, Clark Rural Water System, Bradley, S. Dak.; Mr. Frank Woster, Lyman-Jones Rural Water System, Reliance, S. Dak.; Mr. Earl Rowland, president, Missouri River Bank Stabilization Association, New Castle, Nebr. This is the first visitor outside of myself that we have had, and I welcome you, Mr. Rowland.

Mr. Dale Kurth, Brown Day Marshall Rural Water System, Claremont, S. Dak.; Mr. Harold McRae, president of the town board of Kadoka, S. Dak. Mr. McRay has had to leave, so he has submitted his testimony for the record.

With that, we will proceed with Miss Cathy Wernke.

STATEMENT OF CATHY WERNKE, PROJECTS COORDINATOR, LANDING CREEK PIPELINE PROJECT AND WHETSTONE PIPELINE IRRIGATION DISTRICT

Miss WERNKE. On behalf of the Landing Creek pipeline and the Whetstone Pipeline Irrigation District, which two projects are situated in Gregory, Lyman, and Tripp Counties, S. Dak., as project coordinator, I, Cathy Wernke, submit the following statement to be placed in the record.

The State of South Dakota gave up over 500,00 acres of land inundated to provide flood control and power production facilities on the four dams constructed in this State under the Pick-Sloan Missouri Basin program.

The counties of Gregory, Lyman, and Tripp, which are intended to be served by the proposed Landing Creek and Whetstone pipeline projects, collectively gave up 76 thousand acres of valuable bottom land constituting over 15 percent of the total land taken in the entire State.

The flood control and power production gained by this sacrifice has been of little or no benefit to the citizens of this three-county area or the State of South Dakota.

It appears reasonable and equitable that the counties where the loss occurred should be considered first in line to receive the benefit of the promise and obligation of the Federal Government to follow through with the second stage of the Pick-Sloan Missouri Basin commitment which guaranteed Federal assistance for irrigation and low-cost power.

The Oahe project was born out of this promise and apparently was intended to at least in part repay the State of South Dakota for the great economic loss which was suffered at the taking of the land and continues each year as a result of the loss of the crop production and tax base.

Any modification, proposed deauthorization or alternate plan in respect to the Oahe project should take into consideration other proposed projects of record.

The Landing Creek pipeline and the Whetstone Pipeline Irrigation District projects are not mentioned by name in S. 1553, and are part of the reference to "other projects proposed by the State".

These two projects are separate entities and each stand on their own, but by reason of their locations and their nature as proposed irrigation and rural and domestic water sources, they have been developed since the beginning as companion projects to service a three-county area.

Landing Creek and Whetstone collectively have 61,000 acres of farmland signed up for primary irrigation, the South Dakota State Legislature placed both projects on the State plan in 1977 by bills duly passed, and the necessary water permits for the projects have been of record since prior to that time.

Reconnaissance studies for water development and irrigation have been conducted and updated by private irrigation engineers and planning firms showing feasibility for both projects. All procedures conducted thus far have been paid for by funds raised solely from the individual landowners and the interested citizens for the immediate area.

Landowners have paid into the projects \$124,400 for necessary funds for study and development of the projects. Water projects support certificates have been signed by over 2,000 citizens in the projects area certifying support of Landing Creek pipeline and Whetstone Pipeline Irrigation District to provide water from Lake Francis Case to be used for rural and municipal water, farm, livestock, domestic, industrial, and irrigation needs, and do advocate the use of Federal funds in support of the promotion and development of said projects, the enactment of the necessary legislation in the Congress of the United States and the State legislature to enable the funding and construction of the same.

These citizens who support the proposed projects and have paid their dues to promote water development in this area are not asking for welfare, for commodities, or for a pension. They are asking the U.S. Government to fulfill the promise and the obligation of the Pick-Sloan Missouri Basin program and Flood Control Act by following through with the second State of the original river plan.

Senator MURKOWSKI. May I ask that you would summarize your remaining remarks, please.

Ms. WERNKE. S. 1553, section 2(b) proposes that the Secretary of the Interior shall use criteria "no less favorable" than those under which the Oahe unit, initial State, was authorized. It is respectfully hereby submitted the proposition that criteria used shall be more favorable so that feasible, workable projects requested and needed by the public may be constructed.

Such an attitude could have prevented the Oahe and Pollock-Herreid unit development objections from arising. It is proposed that the Secretary may use other criteria with consent of the State, and in this respect we support the proposition that the current principles, standards, and procedures for water resources planning be more practical, viable, and simplified.

In the instances where the guidelines have been made so strict and exacting as to prevent reasonable water development where necessary, the Secretary should have the power to waive such requirements in the interests of furthering the main objectives of the projects.

We give our support to the enactment and implementation of the proposed legislation.

Thank you.

[The prepared statement of Miss Wernke follows:]

SENATE SUBCOMMITTEE ON WATER AND POWER
HEARING ON S. 1553

Pierre, South Dakota

September 12, 1981

LANDING CREEK PIPELINE PROJECT AND WHETSTONE PIPELINE
IRRIGATION DISTRICT

On behalf of the Landing Creek Pipeline and the Whetstone Pipeline Irrigation District, which two projects are situated in Gregory, Lyman and Tripp Counties of South Dakota, as Project Coordinator, I, Cathy Wernke, submit the following statement to be placed in the record:

The State of South Dakota gave up over 500,000 acres of land inundated to provide flood control and power production facilities on the four dams constructed in this state under the Pick-Sloan Missouri Basin program. The Counties of Gregory, Lyman and Tripp, which are intended to be served by the proposed Landing Creek and Whetstone Pipeline Projects, collectively gave up 76,000 acres of valuable bottom land constituting over 15% of the total land taken in the entire state. The flood control and power production gained by this sacrifice has been of little or no benefit to the citizens of this three county area or the State of South Dakota.

It appears reasonable and equitable that the counties where the loss occurred should be considered first in line to receive the benefit of the promise and obligation of the Federal Government to follow through with the second stage of the Pick-Sloan Missouri Basin commitment which guaranteed Federal assistance for irrigation and low cost power. The Oahe Project was born out of this promise and apparently was intended to at least in part repay the State of South Dakota for the great economic loss which was suffered at the taking of the land and continues each year as a result of the loss of the crop production and tax base. Any modification, proposed deauthorization, or alternate plan in respect to the Oahe Unit, should take into consideration other proposed projects of record.

The Landing Creek Pipeline and the Whetstone Pipeline Irrigation District projects are not mentioned by name in S. 1553, and are part of the reference to "other projects proposed by the State". These two projects are separate entities and each stand on their own, but by reason of their locations and their nature as proposed irrigation and rural and domestic water sources, they have been developed since the beginning as companion projects to service a three county area.

Landing Creek and Whetstone collectively have 61,000 acres of farm land signed-up for primary irrigation, the South Dakota State Legislature placed both projects on the state plan in 1977 by bills duly passed, and the necessary water permits for the projects have been of record since prior to that time. Reconnaissance studies for water development and irrigation have been conducted and updated by private irrigation engineers and planning firms showing feasibility for both projects. All procedures conducted thus far have been paid for by funds raised solely from the individual landowners and the interested citizens of the immediate area. Landowners have paid into the projects \$124,400 for necessary funds for study and development of the projects. Water Projects Support Certificates have been signed by over 2,000 citizens in the projects area certifying support of Landing Creek Pipeline and Whetstone Pipeline Irrigation District to provide water from Lake Francis Case to be used for rural and municipal water, farm, livestock, domestic, industrial, and irrigation needs; and do advocate the use of Federal Funds in support of the promotion and development of said projects, and the enactment of the necessary legislation in the Congress of the United States and the State Legislature to enable the funding and construction of the same.

These citizens who support the proposed projects and have paid their dues to promote water development in this area are not asking for welfare, for commodities, or for a pension. They are asking the United States Government to fulfill the promise and the obligation of the Pick-Sloan Missouri Basin program and Flood Control Act by following through with the second stage of the original river plan.

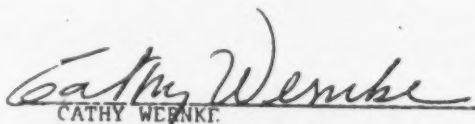
These projects are needed to stabilize the crop and livestock production of the arid and too often drought stricken area of west river South Dakota. The projects are feasible with the proper and timely development. They fall squarely into the plan for Missouri Basin water development and include the promised future riverside irrigation of Pick-Sloan. The projects have demonstrated total local support as grass-roots proposals. The development is long over due.

Federal assistance is imperative for development of Landing Creek and Whetstone Pipeline Projects. The irrigation districts must have the promised low-cost power. Long term, reasonable interest rate loans are necessary for financing. The individual landowners who have committed themselves to these projects are ready and willing to put forth the labors to pay for this development from the increased production that will result, but they are not able to proceed without Federal direction and assistance.

S. 1553, Sec. 2 (b) proposes that the Secretary of the Interior shall use criteria "no less favorable" than those under which the Oahe Unit, initial stage, was authorized. It is respectfully hereby submitted the proposition that criteria used shall be more favorable so that feasible, workable projects, requested and needed by the public may be constructed. Such an attitude could have prevented the Oahe and Pollock-Herreid Unit development objections from arising.

It is proposed that the Secretary may use other criteria with consent of the State and in this respect we support the proposition that the current Principles, Standards, and Procedures for Water Resources Planning be more practical, viable, and simplified. In the instances where the guidelines have been made so strict and exacting as to prevent reasonable water development where necessary the Secretary should have the power to waive such requirements in the interests of furthering the main objectives of the projects.

We give our support to the enactment and implementation of the proposed legislation.


 CATHY WENKE
 Projects Coordinator
 LANDING CREEK PIPELINE AND
 WHETSTONE PIPELINE IRRIGATION
 DISTRICT PROJECTS

Senator MURKOWSKI. Thank you very much, Miss Wernke. We appreciate your testimony.

Mr. Terry Yexley?

STATEMENT OF TERRY YEXLEY, SECRETARY, BOARD OF DIRECTORS, CLARK RURAL WATER SYSTEM, CLARK, S. DAK.

Mr. YEXLEY. Mr. Chairman, Senator Abdnor, my name is Terry Yexley. I am the secretary of the Clark Rural Water System.

We, as the board of directors of the Clark Rural Water, feel that Senate bill 1553 does not offer any advantages to rural water projects in eastern South Dakota who will be using groundwater as their source of water.

Clark Rural Water feels that the Oahe project should be deauthorized. The members and county residents have paid taxes to the Oahe fund even though no Oahe water would ever have flowed to any of us. The only thing Oahe would have done is taken our land away from us through mitigation.

Clark Rural Water feels that enough studies have been made in the State of South Dakota about water projects. Our water system is ready to go. Clark Rural Water and other "ready" systems in the State need construction funds. Clark Rural Water is first on FHA docket in the State, and with the construction moneys being short because of budget cutting and inflationary period, we feel that we would like to have some tradeoff money from this Oahe trade, if there is such a thing.

And section 4 could be of benefit to our area residents. Thank you.

Senator MURKOWSKI. Thank you very much for the very concise and to-the-point statement. We appreciate very much hearing your position.

Mr. Frank Woster, Lyman-Jones rural water system. Mr. Woster?

STATEMENT OF FRANK WOSTER, PRESIDENT, LYMAN-JONES WATER DEVELOPMENT ASSOCIATION

Mr. WOSTER. Mr. Chairman and Senator Abdnor, I presented a synopsis of Lyman-Jones Water Development Association. I had it prepared primarily, and we have used it before. And the page on the back of it that will go into the record, that has brought it up to immediate dates, so we—I won't burden you with going through it.

Our engineer was to present it, but when we saw what was happening at noon, he said why don't you give it; I want you to make other statements.

The fact of the matter, he is on his way home now. But he was here all day, and we have people that are here, and they, too, said if we could limit it to one person, that perhaps I could cover the things we are most interested in.

Senator MURKOWSKI. Thank you.

Mr. WOSTER. OK. Maybe you won't thank me when I am through, but you can stop me.

Senator MURKOWSKI. Well, I will stop you when you are too long, OK?

Mr. WOSTER. OK. Thank you for that.

Now, I would guess that we are perhaps the oldest organized development water system in the State of South Dakota because we began in 1968. In 1969, I became part of it as the director. The last 6 or 7 years I have been chairman of the board.

I have had a lot of experience with water in Lyman County. When I was younger, for about 5 years I was the engineer who staked and built the dams under the farm program there. I know what the problems are in Lyman County, and you can multiply that by every county west of the Missouri River. We all got those problems.

I would suggest at the moment you note on page 2 of the synopsis, which is all I will refer to, and that has to do with the quality of water in the town where I went to school and I was raised, and that's the town next to where Jim Abdnor comes from. The town there wouldn't be any better, except they do have a dam that gathers some surface water in part of the year where they have better water than we do.

This applies to our entire system. Our water is terrible. And they are doing everything they can on a very high cost. And again, I am speaking of Lyman-Jones, the two-county system, 90 miles long. It has 400 farmers, 300 pastures, a total of about 5,000. To build this cash out, it would cost about 5,000 per capita. A family of four, we are talking about \$25,000, or \$20,000, if you could buy it and pay for it.

And it's interesting to note that a well 50 miles west of me that they depend upon water which is not good water for anything but livestock, it now cost over \$20,000 to build one well for an average life of perhaps 10 years. It could be 6; it could be 16.

So these are the things we are up against. But it does not have the quality of water. They are saying out there you could wash your feet in it if they are real dirty, but otherwise not.

And the cattle have to get real dry when they first get to it, and then after awhile they drink it. They get used to it. I guess the people do too, to some extent.

But most of them haul water for their home use.

I suppose I am like the guy looking for a shoulder to cry on, but this applies to almost everything west of the Missouri River until you get almost into the Black Hills area.

Now, as I say, we have a system there with people I have told you about. We have 400 farmers, 300 pastures, we have about 900 miles of line. So you can see why other projects are funded for, why we are so old. Therefore, if it is a possibility of funding for our project, which has been ready; went to FHA and was turned down because we wanted more money than they had for the whole State about 5 years ago, if there is a possibility that the Federal people think they owe us, owe the State of South Dakota something, I wish to point to Lyman County, because I reside there.

We have a shoreline of about 150 miles, and about half of that, I would say, would belong to the Indian reservation, and you have heard their testimony.

But the rest of it is taken off the tax rolls and per county that it's already cut down by quite a large reservation, you can see what this has done.

Land was sold for \$22 an acre. I had some land that was a little better sold for \$37. And I said I don't want to sell, well, they said, you can go to court. And, of course, you know I went.

So I feel that if the Federal Government, if you should determine that they do have an obligation, I think that our No. 1 priority west of the Missouri River and for a long ways east is rural domestic water that can also be used for livestock.

Now, I grant you irrigation is wonderful, but on a cost/benefit ratio which everybody would look at if he built it and paid for it himself, the irrigation is prohibitive.

We had a study where I am living, 6 miles from the river, and we had this study made by the college at Brookings. They started out and said that it would be \$450 an acre to get it to your border. Fine. But before we got it through, we had a meeting. They signed up now, it's \$900, and today we want your commitment. There wasn't a farmer there that would commit \$900 an acre to bring that to his boundary and spend another \$200 or \$300 dollars for irrigation.

Therefore, I would say that if you run into irrigation where the cost is \$1,500 and \$1,800, \$3,000. The cost/benefit ratio can't be justified, with grant money for people and livestock for west of the Missouri River and also for a lot of it east. It's the lifeline for those people to have families, to have a home——

Senator MURKOWSKI. Would you please summarize your remarks, Mr. Woster.

Mr. WOSTER. I guess I just did.

[The prepared statement of Mr. Woster follows:]

SYNOPSIS

LYMAN-JONES WATER DEVELOPMENT ASSOCIATION

Lyman and Jones Counties in South Dakota are located in the central part of the state and have a primarily agricultural economy, although there is a fair tourism industry along Interstate Highway 90. While the land is capable of good crop production and very suitable for livestock pasturing, the semi-arid climate with intermittent periods of heat and drought make dry-land agriculture a difficult way to make a living. The counties are not heavily or densely populated, and county populations are not expected to show any significant increase in the near future.

These two counties do have a severe problem that is common to many areas of the state and in Lyman and Jones Counties - as in many others - a problem that cannot be easily or cheaply solved. That problem is best described as a terrible water supply.

Adequate surface waters of good quality are found only in those areas immediately adjacent to the Missouri River. Other surface waters in the subject area are seriously deficient in either quality or quantity, or both. Thus, except for the eastern extremes of Lyman County, the entire area can be described as having no significant surface water supplies adequate for or suited to domestic consumption.

As bad as the surface water situation is over most of the area, the ground water which can be extracted from wells is as bad, or worse, than the surface waters. Except for a few isolated areas along the White River and some isolated outwash aquifers, there is no available shallow source of ground water. Even those areas along the White River

and the isolated outwash aquifers are capable of only limited supplies of water, and much of this supply can disappear during periods of drought.

The bulk of the area must then rely upon waters found in the deeper Dakota and Madison formations. While these aquifers generally supply an adequate amount of water for municipal, domestic, and live-stock use, the quality of these waters is extremely poor. An analysis of a well at Reliance, South Dakota, is shown here as found in "South Dakota Public Water Supply Data," published by the South Dakota Department of Environmental Protection in January, 1970.

Depth: -1300'			
Total Hardness	1212 ppm	Iron	1.5 ppm
Calcium	358 ppm	Manganese	0.19 ppm
Bicarbonate	155 ppm	Sodium	120 ppm
Sulfate	1160 ppm	Chloride	89 ppm
Fluoride	2.6 ppm	Total Solids	- 2049 ppm

Unfortunately, this is typical of the ground waters to be found in the area.

This scarcity of good quality ground water creates extreme problems for the people who live and work in this area. Two communities - Murdo and Kennebec - have built dams on small streams and have water treatment plants which provide a good quality water to the residents of those towns. However, in periods of drought or below normal precipitation, these dams become critically inadequate. Murdo has had to supplement their surface water supply with wells which yield a poor quality water of limited quantity. The Town of Oacoma, located on the Missouri River, has recently received a federal grant (DHUD) to build a water treatment plant utilizing water from that river, so their problem is solved; but that plant is only large enough to supply that community and a limited number of ranches close to it.

The balance of the area in question has had to rely upon the previously discussed deep underground waters. Wells into these formations are expensive. Current estimates for a farm well run from \$20,000 to \$30,000, and life expectancy on these wells can be as little as eight to ten years. Community water wells are even more expensive. In addition to being costly, this water is of poor quality and many of the people using it soften the water to try to improve the quality. In many locations, this water is corrosive and will actually destroy the chrome plating on plumbing fixtures. Many of the rural homes maintain cisterns and have better water hauled in. This water is so expensive (current prices--\$35 to \$50 per 1,000 gallons) that they try to use it only for drinking and cooking, using normal well water for most of their needs.

Livestock needs are handled by wells (same poor quality water) at \$20,000-\$30,000 each, or by small stock dams. In this semi-arid climate, these dams are often inadequate. Many have become silted in over the years and have little capacity left. The muddy shore lines also trap cattle going in to drink, causing distress, weight loss, and all too often, death. Many otherwise good pastures cannot be used during dry weather because of inadequate water supply unless water is hauled in - a costly and time-consuming process.

The Lyman-Jones Water Development Association is attempting to provide a solution to these problems through development of a water district which would serve eight communities (Reliance, Kennebec, Presho, Vivian, Draper, Murdo, Okaton, and Lower Brule), and the many farms and ranches in the district boundaries. The organization was formed in the mid-1960's, and a consulting engineer was engaged to perform a preliminary study. Water sources were investigated (the Missouri

River and the Little White River), and various alternate plans were devised to serve the area through a system of buried pipe lines and water storage tanks. The system finally selected consists of a water intake and treatment plant on the Missouri River, with a distribution system of buried plastic piping (total--4,017,000 lin. ft.) ranging in size from 1-1/2 inch to 16-inch, and 14 storage tanks. Estimated cost updated to 1980, is \$24,480,000. This system would bring a good quality water to the eight communities, nearly 500 farm and ranch homes, and approximately 400 pasture taps.

The Lyman-Jones Water Development Association has investigated and attempted to secure federal assistance through the Farmers Home Assistance program for the project. However, funds for the system have been unobtainable because of the relatively high system cost weighed against the extremely low population density which exists in the area. While the Lyman-Jones Water Development Association agrees that the relative cost per user is high, the project is necessary if this area is to receive a water supply suitable for human consumption, better suited to enhance livestock production and of adequate quantity for those uses.

The Lyman-Jones Water Development Association will continue to work to (a) continue to investigate other water supply methods as other sources [dam on Little White River] or new or improved technologies [reduced costs of reverse osmosis] become available, and (b) continue to attempt to obtain financial assistance to construct the system, but financial assistance of some sort will be required if the goals of this organization are to become a reality and adequate water of good quality is to be made available to the people of the district.

Frank Woster, President
Lyman-Jones Water Development Assoc.

Lyman-Jones Water Development Association

X Frank Woster, Chairman

Reliance, S.D. 57569

Gentlemen:

We are pleased to submit the attached revised project cost estimate and partial feasibility analysis which were prepared by Bartlett and West Consulting Engineers, P.A. (B&W) and reviewed by Schmucker Paul and Nohr & Associates (SPN). These were presented verbally to you on June 13, 1980 at your meeting in Presho.

The construction cost estimate was made by using the Alternate BB design prepared in 1974 by M. David Feld Consultants for SPN. Pipeline unit cost estimates were taken from the low bid on the Tri-County Water Assn., Inc. (February 13, 1980) and are considered to be a best estimate of probable current project pipeline cost. Other costs were either updated for inflation or estimated based on a judgement percentage value.

The annual operation and maintenance costs were estimated based on experience on other rural water systems. Water use data was taken from the Feld Report.

Costs were apportioned between town and rural users based on assumptions shown in the calculations. The average user costs were calculated for two different assumed financing schemes. The first scheme, primarily Farmer's Home Administration loan, results in estimated average user costs of about \$18 per town person per month (plus operation and maintenance of existing in-town distribution system) and about \$272 per rural household per month. In the second scheme 80% of the loan funds are replaced by grant which would reduce estimated average user costs to about \$5 and \$82 as respectively stated above.

Senator MURKOWSKI. Thank you. I think your last comment, "It's the lifeline" was appropriate. Thank you, sir.

Mr. Earl Rowland, president of the Missouri River Bank Stabilization Association?

STATEMENT OF EARL ROWLAND, PRESIDENT, MISSOURI RIVER BANK STABILIZATION ASSOCIATION

Mr. ROWLAND. Thank you, Mr. Chairman and Senator Abdnor. I will be very brief with this. This is something different on your agenda, I can tell you.

Senator MURKOWSKI. Thank you.

Mr. ROWLAND. Our project is known as the Missouri National Recreation River project, a 59-mile stretch of the Missouri River from Gavins Point Dam west of Yankton, S. Dak. to southwest of Elk Point, S. Dak. This is not strictly a water project but will do much toward determining the future use of the Missouri River water for South Dakotans.

It is one of the projects approved by the South Dakota Legislature in their State water plan. The "recreation river" designation is very misleading. It sounds like it is only to provide more recreation, when in reality it is largely to preserve the natural condition of the river, prevent bank erosion, save woodlands and to further the use of water from the river.

The designation provides for the right to use the river water for various needs. Controlling the erosion would give the farms and others a chance to put in pumping stations, whereas heavily eroding banks prevents many from investing in these facilities.

We, therefore, would like to see S. 1553 passed and see water development in South Dakota proceed ahead instead of standing still; \$600,000 has been appropriated for fiscal year 1980 and fiscal year 1981, and most of it spent for the necessary studies and environmental impact statements, so we are ready for construction.

Thank you very much.

Senator MURKOWSKI. Thank you very much. Mr. Rowland. We appreciate your testimony and your concise recommendations. And this is a corns project: is that correct?

Mr. ROWLAND. Yes, sir.

[The prepared statement of Mr. Rowland follows:]

STATEMENT OF EARL ROWLAND, PRESIDENT, MISSOURI RIVER BANK STABILIZATION ASSOCIATION

Mr. Chairman and members of the subcommittee, we appreciate the chance to appear before you on behalf of the Missouri River Bank Stabilization Association in regards to S. 1553, a bill which among other things provides for the study of South Dakota water projects to be developed in lieu of the Oahe and Pollock-Herreid Irrigation projects and to make available Missouri Basin pumping power to projects authorized by the Flood Control Act of 1944. Our project is known as "The Missouri National Recreation River Project", a 59-mile stretch of the Missouri River from Gavins Point Dam west of Yankton, South Dakota to southwest of Elk Point, South Dakota. This is not strictly a water project but will do much toward determining the future use of Missouri River water for South Dakotans. It is one of the projects approved by the South Dakota legislature in their state water plan. The Recreation River designation is very misleading. It

sounds like it is only to provide more recreation, when in reality it is largely to preserve the natural condition of the river, prevent bank erosion, save woodlands and to further the use of water from the river. The designation provides for the right to use the river water for various needs. Controlling the erosion would give the farmers and others a chance to put in pumping stations whereas heavily eroding banks prevents many from investing in these facilities. We therefore would like to see S. 1553 passed and see water development in South Dakota proceed ahead instead of standing still. Six hundred thousand dollars has been appropriated for fiscal year 1980 and fiscal year 1981 and most of it spent for the necessary studies and environmental impact statements so we are ready for construction. The Corps has expressed a capability of \$2.3 million for construction and \$160,000 for operation and maintenance for fiscal year 1982.

Thank you for this chance to appear before your subcommittee.

Senator MURKOWSKI. Thank you.

Mr. Dale Kurth, Brown-Day-Marshall Rural Water System.

STATEMENT OF DALE KURTH, CHAIRMAN, BROWN-DAY- MARSHALL RURAL WATER SYSTEM

Mr. KURTH. Mr. Chairman Murkowski, Senator Abdnor and staff, I am Dale Kurth, chairman of the Brown-Day-Marshall Rural Water System.

The Brown-Day-Marshall Rural Water Steering Committee is very concerned about the failure of domestic water projects to be included in the Governor's list of proposed water projects and other current discussions of water development in South Dakota. We believe that domestic water is important and that it should have priority in any water development scheme.

Domestic water projects currently are in a very difficult situation for funding. FMHA community service loan and grant funds are small, and the higher interest rates raise individual water bills to the point that new projects are no longer feasible.

The WEB water project seems to have the possibility for grant and loan funds as a result of direct congressional appropriation. If this project is developed, it will meet some of the domestic rural water needs with Missouri River water. BDM and several other domestic water systems can provide water cheaper from well fields.

They will not be helped by the construction of WEB. WEB is not engineered to provide water to BDM nor to include those who signed up with BDM within their system.

We, therefore, see no alternative for funding of domestic water projects in the near future except through an Oahe settlement of some sort. We believe that projects included as part of the water resource management system by the South Dakota Legislature, which have preliminary engineering feasibility studies completed, which have been approved by FmHA and are ready for construction should receive priority in any funding settlement.

We appreciate your committee giving us the opportunity to testify and express our concerns. We know that you wish to do that which is in the best interests of the people of the State of South Dakota.

Thank you.

[The prepared statement of Mr. Kurth follows:]

BROWN-DAY-MARSHALL RURAL WATER SYSTEM
Box 229
Britton, South Dakota 57430

The Brown-Day-Marshall Rural Water Steering Committee is very concerned about the failure of domestic water projects to be included in the Governor's list of proposed water projects and other current discussions of water development in South Dakota. We believe that domestic water is important and that it should have priority in any water development scheme.

Domestic water projects currently are in a very difficult situation for funding. FmHA Community Service loan and grant funds are small and the higher interest rates raise individual water bills to the point that new projects are no longer feasible.

The WEB water project seems to have the possibility for grant and loan funds as a result of direct congressional appropriation. If this project is developed it will meet some of the domestic rural water needs with Missouri River water. BDM and several other domestic water systems can provide water cheaper from well fields. They will not be helped by the construction of WEB. WEB is not engineered to provide water to BDM nor to include those who signed up with BDM, within their system.

We, therefore, see no alternative for funding of domestic water projects in the near future except through an Oahe settlement of some sort.

We believe that projects included as part of the Water Resource Management System by the South Dakota Legislature, which have preliminary engineering feasibility studies completed, which have been approved by FmHA and are ready for construction should receive priority in any funding settlement.

As you probably are aware our system is proposed for parts of three counties - Brown, Day and Marshall. It was organized in 1977 and 520 plus good intention fees have been paid, including four small towns. That's over 3,500 people. We were projected for FmHA funding for 1981, but due to current and proposed reduction in funds that date has not been met. BDM has been included as part of the South Dakota State Water Resources Management System by the South Dakota Legislature.

The area is not densely populated and therefore any system has a relatively high cost per user. However, due to the lack of quantity and quality of water it is of considerable significance to the area. Also, wells aren't cheap! Most wells are artesian and cost from \$8,000 to \$12,000. That's for water that is too high in dissolved solids to meet public health water quality standards. This causes continuing problems with diarrhea. Some of the shallower wells have problems with nitrates to such a degree that it can be deadly for infants and small animals to drink the water.

Page 2

Many people haul water to drink and for household use. The livestock have a reduced rate of gain causing economic loss. Plumbing corrodes, water heaters last about five years and in some cases clothes can't be washed with the water because of stains and rust, so they have to be washed in town.

We appreciate your committee giving us the opportunity to testify and express our concerns. We know that you wish to do that which is in the best interests of the people of the State of South Dakota.

Sincerely,

Dale Kurth

Dale Kurth, Chairman
BDM Rural Water Steering Committee

Claire Witham
Claremont, S.D. 57432

Richard Daly
Columbia, S.D. 57433

Gary Beck
Hecla, S.D. 57446

Dennis K. Larson
Groton, S.D. 57445

Gerald Osterman
Groton, S.D. 57445

Harold Patterson
Britton, S.D. 57430

Irwin Symens
Claremont, S.D. 57432

David Tople
Andover, S.D. 57422

Omer Nelson
Groton, S.D. 57445

Ervin Roehr
Britton, S.D. 57430

Gerald Lahman
Groton, S.D. 57445

Lloyd Sanderson
Claremont, S.D. 57432

Ralph Ogren
Langford, S.D. 57454

Robert Schuelke
Groton, S.D. 57445

Don Erickson
Langford, S.D. 57454

Melvin Dier
Bath, S.D. 57427

Gerald Dinger
Britton, S.D. 57430

William Baule
Andover, S.D. 57422

George Hanson
Claremont, S.D. 57432

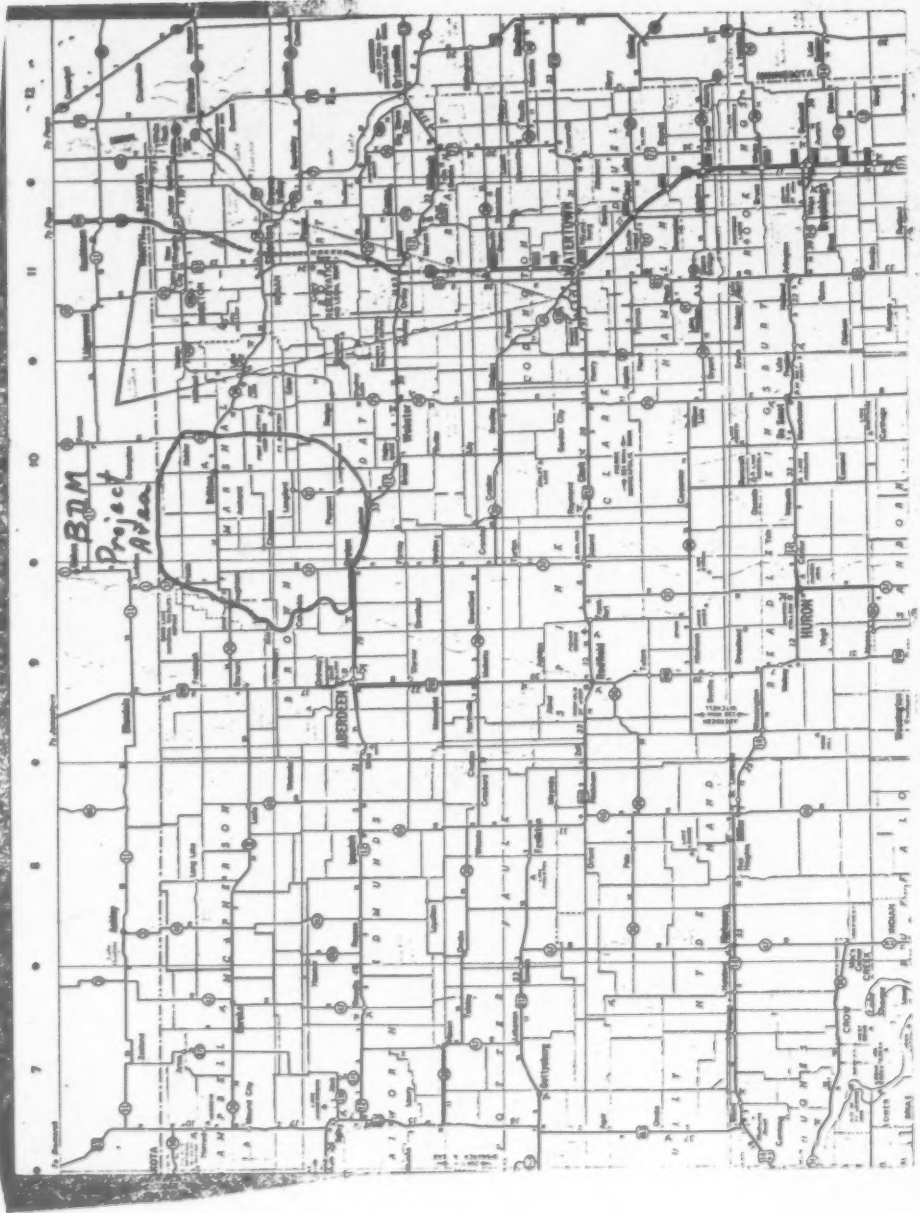
Arlo Moeckly
Britton, S.D. 57430

Pete Hardy
Langford, S.D. 57454

Robert Anderson
Pierpont, S.D. 57468

Kenny Frey
Claremont, S.D. 57432

Ralph Skare
Britton, S.D. 57430



Senator MURKOWSKI. Thank you very much. We appreciate your testimony, and the exhibit will be entered into the record as submitted.

We thank the panel and assume that's the extent of the projects panel witnesses. You are excused, ladies and gentlemen.

We will proceed with "other witnesses." Panel I consists of Mr. Robert Schuelke, president of Brown County Farm Bureau; Mr. Roger Schuller, Claremont, S. Dak.; Mr. John Elsing, Mansfield, S. Dak.; Mr. Brad Tschetter, Huron, S. Dak.; and Mr. Kenneth Olson, Turton, S. Dak.

And at that point, we can turn to page 4.

Please proceed, Mr. Schuelke.

STATEMENT OF ROBERT E. SCHUELKE, PRESIDENT, BROWN COUNTY FARM BUREAU

Mr. SCHUELKE. Thank you, Senators. I am Robert Schuelke.

Mr. Chairman and members of the committee, I am Robert Schuelke, Groton, S. Dak., president of the Brown County Farm Bureau. I am a native of my home township farm raised and still farming.

I am here today to tell the members of the committee that it is the official policy of the Brown County Farm Bureau and South Dakota Farm Bureau to support deauthorization of the Oahe unit and also to support building the WEB pipeline.

Distribution of domestic and industrial water by pipeline is a pressing need in South Dakota. The deauthorization of the Oahe project would be a major step to unified water planning in South Dakota.

The Oahe project is considered dead by many persons. Those landowners threatened with condemnation of their property to provide project facilities, should this "dead" but authorized project be funded, do not agree. They cannot plan; they cannot build—deauthorization is the answer.

We have heard from the previous tenants of the people in the project that the pipeline distribution is the same, and most of these people are in dire need within South Dakota.

The Oahe unit is in a "no funding" situation; however, the air continues to be filled with high sounding rhetoric of plans and modifications which serve only to divide the people of South Dakota and stall the really needed water development.

South Dakota and South Dakotans could not and cannot afford the destruction of resources by the Oahe project or anything like it. It is high time that the Oahe unit is deauthorized and South Dakotans unite in projects to fill its real need, the pipeline distribution of industrial and domestic water.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Schuelke follows:]

Senate Hearings:
WEB - OAHB -
POLLOCK - HERREID
Pierre, South Dakota
September 12, 1981

Robert E. Schuelke
Brown County Farm Bureau
Groton, South Dakota

Sub-committee on Water and Power
Senate Committee on Energy and Natural Resources

Mr. Chairman, Members of the Committee:

I am Robert E. Schuelke, Groton, South Dakota, President of the Brown County Farm Bureau. I am a native of my home township, farm raised, still farming.

I am here today to tell the members of the Committee that it is the official policy of the Brown County Farm Bureau and South Dakota Farm Bureau to support deauthorization of the Oahe Unit and also to support building the WEB pipeline. Distribution of domestic and industrial water by pipeline is a pressing need in South Dakota. The deauthorization of the Oahe project would be a major step to unified water planning in South Dakota.

The Oahe Project is considered "dead" by many persons. Those landowners threatened with condemnation of their property to provide project facilities, should this "dead" but authorized project be funded, do not agree. They can not plan. They can not build. Deauthorization is the answer.

The Oahe Unit, conceived as a part of the Flood Control Act of 1944, was a "carrot on the stick" to make South Dakotans willing to give up the 500,000 acres of the Missouri River Valley to dams and reservoirs, to provide flood control down stream. It sounded good, but study showed that the Oahe Unit would not and could not provide the benefits heralded by planners and supporters. The inclusion of an extensive artificial drainage system as a part of the authorized plan is evidence

that the planners considered the Oahe Unit a bad irrigation project.

Faced with the task of building a project without a majority of local support, the Bureau of Reclamation and its supporters turned to "divide and conquer".

In organizing the two irrigation districts, necessary to build the project, objectors within the boundaries were invited to "petition their land out" of the project and thus, themselves out of a vote. More farms were petitioned out of the Spink District than there were "Yes" votes to organize.

Landowners, required to give up land for canals and reservoirs were "Sold" the idea that Spink and Brown County farmers needed the water.

Landowners along the James River were told that "channelization" of the river would protect them from flooding, while wildlife citizen groups were told that a "Green Belt" would provide habitat improvement, so these groups fought each other and not the project.

Cities and towns were told they would get cheap water. Most actually could not afford the filtration facilities necessary to use the "cheap" water the project might provide.

Huge Wildlife habitat benefits were touted for canals and reservoirs, to get state wide "Wildlife" support. U. S. Fish & Wildlife Service finally debunked this, stating "the benefit to Wildlife by building the project would be negative".

Landowners in Watershed Districts draining into the James River were told that their project could not proceed without James River channelization provided by the Oahe project. Actually "watershed projects" are to be designed to hold water within the watershed district and lessen the need for drainage.

After the rural people of the Oahe Sub-district elected a majority of

directors opposed to the project, project supporters made an attempt to have the two urban directors (on an 11 man board) control the board by initiating a "one man - one vote" court case.

The Oahe Unit is in "NO FUNDING", however the air continues to be filled with high sounding rhetoric of plans and modification, which serve only to divide the people of South Dakota and stall needed water development.

South Dakota and South Dakotans could not and can not afford the destruction of resources by the Oahe project or anything like it.

It is high time that the Oahe Unit is deauthorized and South Dakotans unite in projects to fill its real need, the pipe line distribution of industrial and domestic water.

Thank you.

Senator MURKOWSKI. Thank you very much, Mr. Schuelke. We appreciate your testimony.

Mr. SCHUELKE. I hope I was relatively brief.

Senator MURKOWSKI. You were appropriately on the money, sir.

Mr. Roger Schuller, we welcome your testimony, sir.

STATEMENT OF ROGER SCHULLER, CLAREMONT, S. DAK.

Mr. SCHULLER. Mr. Chairman and Senator Abnor, I am Roger Schuller, a landowner involved in the State Oahe project development and alternate State Garrison diversion project. I am also co-chairman of the deauthorization committee instrumental in having Congressman Bedell introduce the bill for deauthorization of the Oahe project.

Along with the recently federally funded Page transportation scandal, the SBA subsidized loans for farm loans is now under investigation for fraud, and the FHA federally subsidized low-interest loans should be investigated. The Oahe irrigation project is in good company.

Many of the major farm supporters of Oahe in our home county of Brown have participated in these federally subsidized bailouts while the vast majority of our county farmers have to go to their local lending institutions and pay 18 to 20 percent interest for their operating loans.

I am not saying these people are dishonest, but they have aggressively supported economic programs which has led our Federal Government to the brink of financial disaster.

The Oahe project would not stop Federal disaster loans and payments in the Oahe subdistrict. Some irrigators in our area now receive these loans. The only difference between the dry land disaster loans and the irrigator disaster loans is that the irrigators usually get the biggest loans.

We have always contended that farmers cannot afford to mortgage their land to meet expenses in the current agricultural marketing climate of this country. We believe President Reagan is correct with the guidelines he is laying down. And it is our belief that the Federal boondoggle, like the Oahe project, will die fast when subjected to realistic economics. It will be the economics that expose these projects to failure.

Mr. Chairman and members of the committee, my written testimony spells out in more detail the economic problems that face the Oahe unit. The use-it-or-lose-it argument put forth by those who want their pie, it's an economic disaster that is built into these projects from a taxpayer's and farmer's point of view.

There are several observations I would like to make: No. 1, our congressional delegation says that the Federal Government has gone back on their promise to help us with water development. This same congressional delegation has broken a settlement agreement on the Oahe project issue that was made in President Carter's administration in 1980.

No. 2, the Federal Government should do a study for the benefit of the dams on the Missouri River that they have already had for our

State. No politician has ever asked for a study, to my knowledge. I feel they may find that the Federal Government does not owe us anything.

I will close my oral testimony with a little story that happened several years ago at one of our State legislative committee meetings dealing with the Oahe project. A witness was testifying against the Oahe project to the committee when a pro-Oahe legislator asked the witness to name just one, just one irrigation project that had ever failed; to which the witness replied, "The Belle Fourche project turned wealthy sheep ranchers into poor farmers."

To this reply there was no rebuttal.

Please amend Senate bill 1553 to include Congressman Bedell's deauthorization bill on the Oahe. This is the only way you can protect the Congress of the United States in the future from having to come back to South Dakota to rehabilitate a completed Oahe project like you have had to do with the Belle Fourche project.

Thank you.

[The prepared statement of Mr. Schuller follows:]

TESTIMONY OF ROGER SCHULLER FOR THE SENATE SUB-COMMITTEE ON WATER AND POWER, SEPTEMBER 12, 1981 HEARING ON SENATE BILL 1553. PIERRE, S.D.

SENATOR FRANK MURKOWSKI-CHAIRMAN

Senate Bill 1553 speaks of studies concerning the alternative use of the features of the Oahe Unit Irrigation Project, which was developed under the Pick-Sloan Missouri River Basin Program. The Oahe Unit itself, was authorized in 1968 under Public Law 90-453. Since the intended use of the Oahe Unit facilities, under this authorization, was to provide irrigation water for an irrigation project, I am interpreting the study that this legislation discusses as being for the development of a large irrigation project.

One of the problems that you encounter with large irrigation projects and my major objection to the Oahe Project, is excessively large uncontrolled subsidies. Under the Oahe Project, the Bureau of Reclamation determined what the farmers ability to pay for irrigation would be. They came up with the determination that the farmers participating in the Oahe Project would be required to pay \$176.00 dollars per acre over a 40 year period. The rest of the project repayment would be broken down among the Oahe Conservancy Sub-District taxpayers, municipal water users, wildlife and recreation, electric power users, and United States Taxpayers. In 1977, the Oahe Project would have cost \$537,590,000. The breakdown would have been as follows:

Irrigators	5%
Oahe Sub-District Taxpayers	1.3%
Municipal Water	4.3%
Wildlife and Recreation	.4%
Electric Power Users	80.8%
U.S. Taxpayers	7.9%

Inflation has greatly increased the cost of the Oahe Project to approximately \$914 million dollars. Under the repayment provisions, the irrigators share of this cost remains at \$176.00 per acre. When the cost of the project increases, as it has since 1977, the electric power users are required to increase their subsidies for the project. So, this 80.8% figure has increased greatly and will continue to do so until the Oahe Project is deauthorized.

It is a well known fact that these large federal irrigation projects are not paying for themselves. In a recent article that appeared in the Farmstead Magazine a report which was prepared by the General Accounting Office was discussed in an article. The article stated that, "The GAO has issued a report showing six western water projects are receiving hefty federal subsidies. Irrigation water from federal projects is priced according to the farmers "ability to pay". That's

PAGE 2

TESTIMONY OF ROGER SCHULLER FOR THE SENATE SUB-COMMITTEE ON WATER AND POWER

what remains from an average average farmers gross income after deducting for production costs (except federal water) and for allowances giving a positive return to capital management and owners labor--an amount much less than the cost of providing water"

"When GAO analyzed the increases in net income possible with full cost water at the 7.5% interest, it found that costs associated with increasing yield using irrigation were greater than the income produced ... GAO recommended that the Congress, during deliberations on water projects, recognized that even seemingly full repayment of federal costs does contain a very large subsidy."

This story on the report by the GAO points out very clearly that with full cost water, even at 7.5% interest, theses projects aren't even coming close to paying their own way. Interest for the Oahe Project has been set at even a lower rate. It isn't possible for Oahe to pay it's way either.

Concerning this interest rate, I've also attached the Oahe Project Data Sheet for 1980. This reflects 1977 costs for the Oahe Unit because it has not been updated. Under ALLOCATIONS, it points out that \$460,457,000 has been allocated for the construction of the irrigation facilities for the Oahe Project. This \$460,457,000 will be repaid over a 50 year period with NO INTEREST. Also, since the amount to be repaid by irrigators remains constant, they do not have to pay any interest for the small amount that they are required to pay.

It is my understanding that this Committee held a hearing this week on the Belle Fourche Project. This project points very clearly to the point that I am trying to make. When this project was authorized, it was thought that it would be a success. The fact that your Committee had to travel all the way out to the project area to discuss an appropriation to rehabilitate the project proved that it wasn't a success. Success would have meant that it should have been able to pay for it's own rehabilitation. Success would have meant that it didn't have an unpaid balance of over 2 million dollars in 1974, six decades since it was built. Even though it's subsidy was minute compared to the Oahe Project, it still couldn't make it on it's own. After seeing this, does this Committee want to take a gamble on a 1 billion dollar project like Oahe or something similar to it?

Another point that I would like to make concerns all of the benefits that these subsidized irrigators are supposed to receive. Politicians in this state have repeatedly said that they are doing this great favor to the rural areas, so our agricultural sector will thrive. They reason that if our farmers are doing well, so will everyone else in the state since South Dakota is an agricultural state. In a report that was prepared by two economists from South Dakota, the conclusions were much different. In AN ANALYSIS OF THE IMPACT OF IRRIGATION DEVELOPMENT ON THE ECONOMY OF CENTRAL SOUTH DAKOTA it was concluded that no matter what the scenario was, personal income and employment would be consid-

PAGE 3

TESTIMONY OF ROGER SCHULLER FOR THE SENATE SUB-COMMITTEE ON WATER AND POWER

erably higher under irrigation simulations in the non-farm output and non-farm income areas. THE FARM SECTOR DID NOT ALWAYS FARE AS WELL. IN FACT, IN MOST CASES THE NON-FARM IMPACTS (financial) WERE GREATER THAN THE FARM IMPACTS. IN TWO OF THE SIMULATIONS THE IRRIGATION WITH 60% OF ADDITIONAL PRODUCTION FED TO LIVESTOCK AND THE ONE WITH RAPIDLY RISING ENERGY COSTS...THE CUMULATIVE CHANGE IN NET FARM INCOME, COMPARED TO THE NO DEVELOPMENT SCENARIO, WAS NEGATIVE.

What this report basically concluded was that in most cases the contractors, irrigation equipment companies, retail sales outlets, and other not connected with farming will do very well with the development of irrigation. However, the farmer usually won't fare very well. When you follow the suggestions of the Governor, that we need irrigation for the purpose of sustaining our livestock economy on the farms and when you consider the fact that energy prices are rising rapidly, and will continue to do so, the farmers participating in this type of a project will lose more than if they wouldn't have had this type of "beneficial" development. I think that it is wrong for the promoters of irrigation projects and politicians to say that they have the concerns of the farmers in mind when they push for this type of development.

The last point that I want to make, concerns a theme that has been widely played over the past few years and one that has once again risen with the legislation that this Committee is now considering. This is the battle cry of use it or lose it. This theme has been used over and over again as a scare tactic to attempt to remove the attention of many away from the real issues of water development, like feasibility and subsidies. People have been told that if we don't move ahead immediately with the water development projects that we have right now, Texas is going to come and take our water.

In the Executive Summary of the West Texas and East New Mexico Water Import Project by the Bureau of Reclamation (1973), it stated that this plan seeks to take 5.8 million acre feet of Missouri and Mississippi River water from near the mouth of the Mississippi River and transport it with 71 pumps and 1,400 miles of canals. The project cost at that time was \$20.5 billion dollars. The benefit/cost ratio is .14¢ to \$1.00. The annual cost, based on a 100 year repayment period, is listed at \$1.9 billion dollars. The energy required to move this water would require an equivalent of 50+2/3 billion kilowatt hours to move a full supply of water through the system. In 1979, it was reported that the energy production of the Bureau's 50 hydroelectric powerplants produced 40 6 billion kilowatt hours of electricity.

I think these few short facts prove that a project like this is infeasible. Studies done by other sources have also proven that this type of a scheme cannot realistically occur. I also think that the Congress of the United States has much more wisdom than to allow for this type of an outrageous and highly subsidized adventure.

This Committee has a very important decision before you concerning

PAGE 4

TESTIMONY OF ROGER SCHULLER BEFORE THE SENATE SUB-COMMITTEE ON WATER AND POWER

Senate Bill 1553. This country is currently facing an economic tragedy in all areas. People, due to high interest rates and increased costs, have been forced to tighten their belts when it comes to their personal finances. I don't think that this Committee, in good judgement, can keep a project like Oahe, that isn't feasible and will never pay for itself, on the books. I also don't feel that it is prudent to expend millions of dollars conducting studies to determine what other way we can come up with to waste the taxpayers dollars for a project that isn't desired by the local people. The alternative projects to Oahe, particularly the CENDAK Project, will lose all of their support when the participants or proposed participants realize that they will be in a money losing proposition that they won't be able to back out of. This will occur even faster than it did with the Oahe Project because the people in this area have a greater knowledge know of what these type of projects involve.

I ask this Committee to amend Senate Bill 1553 and deauthorize the Oahe Project. This will assure that your Committee in the future will not have to come out to South Dakota, once again, as you did earlier this week and provide further subsidies for a project that isn't working. Thank you for this opportunity to testify.

FARMSTEAD MAGAZINE

federal water subsidies

The General Accounting Office (GAO) has issued a report showing six western water projects are receiving hefty federal subsidies. Irrigation water from federal projects is priced according to the farmer's "ability to pay." That's what remains from an average farmer's gross income after deducting for production costs (except federal water) and for allowances giving a positive return to capital, management and owner's labor--an amount much less than the cost of providing the water.

"When GAO analyzed the increases in net income possible with full-cost water at the 7.5 percent interest, it found that costs associated with increasing yield using irrigation were greater than the income produced," the report stated. GAO recommended that the Congress, during deliberations on water projects, recognized that "even seemingly full repayment of federal costs does contain a very large subsidy."

PROJECT DATA SHEET

REGION Upper Missouri		Completion Date 3/		% Complete 8	Date 1/1/80
PROJECT AND STATE PICK-SLOAN MISSOURI BASIN PROGRAM		Based on Direct Benefits		1.7 2/	3.4 2/
OAH UNIT, SOUTH DAKOTA		Based on Total Benefits		1.7 2/	1/1/80
AUTHORIZATION Public Law 90-453, August 3, 1968		DEFINITE PLAN REPORT Approved October 20, 1971			
LAND CERTIFICATION April 11, 1972		SUMMARIZED FINANCIAL DATA			
Total Federal Obligations (Service)		11/	\$490,000,000	Allotments to September 30, 1979 \$ 40,923,724	
Total Federal Obligations (Other)		---		Allotments to 1980 180,000	
Net Property and Other Transfers		3,950,000		41,103,724	
Cash Advances--Non-Federal		---		100,000	
Adjustment		3/		448,796,276	
Total to be Allocated		43,640,000		AMOUNTS PER ACRE	
ALLOCATIONS 2/		REPAYMENT		Invest. per Acre \$2,823	
Irrigation	\$460,457,000	Amount Repaid by Irrigators 7/	\$ 33,440,000	Payment Capacity per Acre	\$10.80
Power	26,542,000	Amount Repaid by Power 8/	427,017,000	Annual Charges:	
M & I Water	5,885,000	Amount Repaid by M & I Water 9/	26,542,000	O & M	7.60
Recreation	30,647,000	Amount Repaid by F&M 10/	783,000	Construction	2.80
F & WL	2,759,000	Amount Repaid by R&C 11/	7,410,000		
Flood Control	7,410,000	Future Capacity 12/	40,900,000		
Future Cap. 4/	3,890,000	Nonreimbursable 5/	---		
Highway Improv.	---	Total	\$537,590,000	Total	\$10.40
Other	---				
Total	\$537,590,000	STATUS OF REPAYMENT CONTRACT: A master water supply and repayment contract was executed with the Oahe Conservancy Sub-District on January 8, 1969. Repayment contracts were executed with West Brown and Spink County Irrigation Districts on December 23, 1969. Master contract validated April 1, 1971.			
STATUS OF ENVIRONMENTAL IMPACT STATEMENTS: Projectwide filed with Council on Environmental Quality December 17, 1973. Supplemental statements on James River Channel improvements and nonproject canal side lands will be rescheduled if construction is resumed.					
DESCRIPTION: The unit is located in central and northeastern South Dakota. Counties in which facilities will be located are Hughes, Sully, Hyde, Hand, Faulk, Edmunds, Beadle, Spink, and Brown. The plan provides for full irrigation service to 190,000 acres adjacent to the James River in Spink and Brown Counties. A total municipal and industrial water supply of 26,620 acre-feet will be provided from the canal system for 17 municipalities. Fish and wildlife areas will be established and recreation areas developed. The Oahe Unit is located in a dryland farming area where droughts have occurred which seriously handicap the economy of the area. Development of irrigation will change the agriculture pattern from predominantly small grain and livestock farming to more diversified farming, feeding and fattening of livestock, dairying, and wider variety of cash crops.					

AN ANALYSIS OF THE IMPACT OF IRRIGATION
DEVELOPMENT ON THE ECONOMY OF SOUTH CENTRAL SOUTH DAKOTA

by

Richard C. Shane 1-688-4141
Assistant Professor of Economics
Department of Economics
South Dakota State University
Brookings, SD 57007

and
Ralph J. Brown
Professor of Economics
Business Research Bureau
School of Business
University of South Dakota
Vermillion, SD 57069

Supported by

Department of Natural Resource Development
and
Legislative Research Council
in cooperation with
Water Resources Institute, SDSU

October 1, 1980

from a positive \$7.0 million to a negative \$11.5 million with more livestock and from zero to plus \$917 million without added livestock (see Figure 4). The wide swings in added net income with more livestock reflect the cyclical nature of livestock numbers and prices. Over-production in the hog industry will have a large depressing effect on livestock prices in the early 80's. Added net farm income over the entire period, 1977-1983, was simulated to be \$23.2 million with only added crop production and negative \$6.3 million when 60 percent of crops were marketed through livestock. With smaller increases in livestock production of 25 percent, added net farm income was positive but still lower than with no added livestock production. This certainly helps to explain why livestock production has not expanded substantially with the irrigation development which has already taken place in the region prior to this study.

These two simulations show convincingly that even though the impact on net farm income was sometimes negative, irrigation development generates positive impacts for the overall district economy. Looking at the changes in farm proprietors and non-farm income in figure 4, one can see that even though farmers incomes were smaller in some years due to irrigation development compared to no development non-farm incomes increased each year. The increases in nonfarm income were also quite stable over time. This results because the farmers have to purchase additional inputs every year which lead to greater wages and salaries in the non-farm economy. However, the farmers' income fluctuates wildly because of unstable crop and livestock prices.

Development With Rapidly Rising Energy Prices

Because of the importance of energy costs in irrigation, a simulation was computed to determine the impact that very rapidly rising energy prices would have on the farm sector and other sectors of the district economy. The standard energy prices incorporated in the control solution and all other simulations were based on the Chase Econometrics 1977-1983 forecasts for fuels and energy in the

were run for the same time period and these results were compared with the control solution to determine the impacts of irrigation on the district economy. The simulations assumed first the development of acreage with good irrigation potential and then introduced the impacts of livestock expansion, rapidly rising energy prices, technological innovations, and a combination of energy cost advance and technological innovation.

The study presents year-by-year impacts of the different development scenarios from 1977-1983. No matter which scenario was used, Gross District Product, personal income, and employment would be considerably higher under each of the irrigation simulations than without the irrigation development. Non-farm output and non-farm personal income were all higher due to the irrigation project. The farm sector did not always fare as well. In fact, in most cases the non-farm impacts were greater than the farm impacts. In two of the simulations--the irrigation with 60 percent of additional production fed to livestock and the one with rapidly rising energy prices--the cumulative change in net farm income compared to the no development scenario was negative. This resulted because production expenses rose faster than farm output prices in these simulations.

Retail sales tax revenues generated by the irrigation project were positive with all development scenarios. Depending on the simulation, the cumulative 1977-1983 additional retail sales tax revenue ranged from \$7.9 to \$18.6 million. Also, employment in the region increased with each development scenario, ranging from an average 282 to 792 annual job increases.

Conclusions

The results of the econometric modeling of the Third Planning District under various irrigation development scenarios led to several conclusions concerning the district economy and irrigation development. The conclusions based on this model follow:

1. Irrigation development will have positive short and long-run impacts on both the farm and nonfarm sectors of the economy. With most scenarios, the nonfarm benefits exceed farm benefits.
2. Even though the farm sector may show zero or negative development impacts in some instances, the nonfarm economy will show positive impacts.
3. State sales tax revenues will increase under any type of irrigation development in the region.
4. Some unused capacity currently exists in the district economy. Irrigation development will lead to more complete utilization of existing resources.
5. Rapidly rising energy prices in the farm sector may offset positive income impacts in the nonfarm sector unless technological innovations occur which increase crop yields or lower production costs on a per unit basis.

Irrigators become better managers

Irrigation energy costs rise steadily

South Dakota irrigators are becoming better managers all the time, according to LeRoy Cluever, Extension Ag Engineer at South Dakota State University. "They have to be better just to keep ahead of energy costs."

Cluever said the cost of energy has risen steadily while the price of farm products has not kept pace.

"When I first started doing cost calculations for irrigation some years back, I used 2½ cents per kilowatt-hour," he said. "Now the average for the state would be about 5½ cents."

Cluever recently surveyed the cost of electricity from seven electric suppliers in the state and calculated averages ranging from 4.42 cents per kilowatt-hour for 1400 hours of operation to 6.22 cents per kilowatt-hour for 600 hours of pumping this year.

"Costs have doubled in the past six seasons," he said. "This works out to about a 12 percent rate of inflation in electrical costs. Cost will vary throughout the state because no two electrical rate schedules were the same," he said.

Diesel costs also have risen, he found. "I used about 40-50 cents per gallon in my early calculations here, and today's prices fix the annual rate of inflation for this fuel at 16-20 percent."

Factors like these cost increases provide strong motives for the emphasis on improving irrigation management skills among irrigators, said the engineer. Crop selection, water management, and equipment maintenance all affect energy usage, he added. "One big factor is in selecting equipment that is very efficient."

"Selecting components for an irrigation system often is a matter of deciding between an energy-efficient system and a cheaper alternative," he continued. "This certainly is true when selecting the size of irrigation pipe."

Services such as the Extension Fact Sheet 757, "Irrigation Pipe Sizes," and the AGNET program PIPESIZE both have been

popular among energy-conscious irrigators as a result, Cluever said.

Choosing pipe size can be a complicated decision, the engineer admitted, but he and his colleagues try to make this decision as easy as possible for irrigators.

"The amount of energy required to move water through a pipe depends on many factors, he said. "The flow rate of water, the seasonal total volume pumped, the length of the pipeline, the pipe material, and the pipe size all have a bearing on the amount of energy required."

As the flow rate or the total volume increases, the most economical pipe diameter also increases, he explained. In addition, the most economical pipe size may increase as the pipe length increases, because a smaller power unit and pump may be possible.

"When selecting pipe materials, the best decision is to select the smoothest and largest pipe that will meet the requirements while remaining as

reasonable in cost as possible," he said. To illustrate his point, Cluever said it would take over 1,500 kilowatt-hours of electrical energy to push 800 gallons of water per minute through 1,000 feet of plastic pipe eight inches in diameter. But the pipe size is increased to 10 inches, only about 530 kilowatt-hours of power is required to move the same volume of water over the same distance.

Increasing the diameter of the pipe by only two inches decreases the energy use for that pipe by 45 percent. That translates to a savings of over \$50 each year.

He added that these calculations are based on providing 10 inches of water to 130 acres per season.

Fact Sheet 757 and the AGNET program are both available through the South Dakota Cooperative Extension Service to aid irrigators, said the engineer. Further information can be obtained through county extension offices or by writing Cluever at the Department of Agricultural Engineering at SDSU.

Irrigation tour scheduled July 8

The James Valley Research and Irrigation Center will hold a twilight tour at 7 p.m. Wednesday, July 8 at the station six miles east of Redfield on U.S. 212 and a half a mile north.

Specialists from South Dakota State University will cover such topics as weed control, wheat, sunflowers, drought tolerance levels of corn inbreds, insect control, grasses, and water requirements for potatoes.

In addition, visitors will learn about feed supplements for cattle and feeding sunflower grain for finishing cattle.

me your needs

The Redfield (S.D.) Press, Wednesday, July 1, 1981, Page 3A

Senator MURKOWSKI. Thank you very much, Mr. Schuller.
The next witness will be Mr. John Elsing. Mr. Elsing, please proceed.

STATEMENT OF JOHN ELSING, FARMER, MANSFIELD, S. DAK.

Mr. ELSING. I have condensed my material down to the point where it would be pointless for you people to try to follow my—the thing that I turned in because I have got it down to about six sentences, or something like that.

Senator MURKOWSKI. That's fine.

Mr. ELSING. To begin with, I want to say that I am opposed to Senate bill 1553. It confused me; I didn't know what it meant, and I couldn't understand it very well, clearly enough, so I wrote to the Department of Interior. My letter was dated August 22, 1981. I got an answer back September 3, 1981.

One of the questions I asked the Secretary was what features of the original Oahe project, if any, could not be constructed if Senate bill 1553 were passed. One sentence answer that I got from the Department of Interior, "We do not believe the bill, as written, would necessarily remove any features from the existing Oahe Unit authorization."

Since I am opposed to the Oahe project, I can't support Senate bill 1553.

Now the booklet I turned up there—Soil Survey on Spink County—has got the information and material in it on which I base that little color-coded picture that you have there. And the analysis of that is the excellent and good prospects for irrigation were colored green. The fair prospects was left uncolored; the poor and unfit were colored red.

The basis for the Spink County soil survey in arriving at those decisions was based primarily on the permeability of soil, the ability of the water to wash the salts through the soil.

A sentence from their little booklet—they say the key is drainage. Now drainage is space, many spaces—they observed them, and the policy and advice of their consultants—they had a board of three consultants, and they asked about the spacing of drainage.

And the consultants gave them that answer, and the Bureau promptly ignored their advice. It bothered me quite a bit.

Now, I have some land on the irrigation project in Spink County, and I have an 80-acre piece of ground that originally the Bureau had classified this to the point where I only had 14.6 acres of land irrigable in that 80 acres. That didn't surprise me because I knew what the situation was and much of the land was low-lying area, and some of it was some pretty tight soil.

But what really surprised me, though, that some time later the Bureau came up with another map, and in that map they had classified 21.7 acres of ground that previously had been classified as 5S land, which is not irrigable; they had reclassified it as class 3 land, irrigable.

Now, the soil didn't change. But I took a fruit jar, and I put some water—or I put some soil, some dry soil, into that jar, and I have it up there for an exhibit.

There are about 6 inches of soil in there and just a little water on top of that. Now, the problem with an irrigable—with a questionable soil, is to get the water to drain through the soil.

Now, you are not done with that jar yet. Please take that jar and turn it upside down.

Senator MURKOWSKI. OK.

Mr. ELSING. You will notice there is a hole in the bottom in that jar. Now if drainage were such a worthwhile thing, the water should come through that jar out of the hole in the bottom, but it doesn't because the soil is just absolutely not permeable enough to do it. And yet the Bureau has reclassified that soil on my farm as irrigable.

And in Mr. Brown's testimony earlier, he had the same complaint. The problem is, that kind of soil is left in the project, and there is any amount of it in the red area on that little map seems to indicate there may be plenty of it; we may have another Riverton, Wyo., project in which much of the soil was ruined because of improper drainage, and the salts came to the top.

I had a couple of slides that I wanted to show here today, but it didn't work out. And I hope to have prints made of that that I can add to my presentation to show the effects of the looks of the soil.

Senator MURKOWSKI. You may submit it for the record at your convenience within the 2-week period.¹

Mr. ELSING. OK.

Senator MURKOWSKI. I would ask that you summarize your remarks at this time.

Mr. ELSING. A brief recapitulation here. The Soil Survey booklet that I gave you warns of the possibility of danger. And the fruit jar, I think that definitely points to the fact that there is danger. The Riverton project points to the fact that danger is a catastrophe if salinization of the soil takes place.

I believe that concludes my testimony other than I would like to make this statement, though. The Bureau, in House Document 163 says that the quality of water in the Oahe reservoir is 543 parts per million of total dissolved solids, which doesn't mean anything to most people. So I transposed the 543 parts per million to pounds per acre and we come up with over a ton of salts that are to be diluted to the ground by the soil in Spink County—or in the Oahe irrigation project. Over a ton of salt is delivered every year. So you must have enough water to wash those salts through, and the soil must be of such a nature that that will wash through because the underground drains will be laid at an average depth of 9 feet.

Thank you.

[The prepared statement of Mr. Elsing follows:]

¹ Not received.

OACHE HEARING PRESENTATION

Pierre, South Dakota

Sept. 12, 1981

by John Elsing

Thank you Senator Murkowski for holding these hearings in South Dakota and for letting me take part in them. My name is John Elsing and I'm a farmer in Spink County.

I'm quite concerned about Senator Abdner's bill 1553 because, to me, it clearly OKs the continuation of the Oache irrigation project. Here is an excerpt from Sec.3(b) "these features of the authorized plan of development for Oache Unit, Initial State, which were designed for and could be used only to deliver irrigation water to Spink and West Brown Irrigation Districts shall not be constructed by the Secretary..."

The disturbing word to me is 'only'. Since this is a multipurpose project, and 17 municipalities can supposedly get water from it, there is very little of it that could not be built if Senate bill 1553 were passed. Certainly the West Main canal running just west of Aberdeen could be built. The canals and ditches that bring water to the farms would also be used by many of the small towns for water. *See attachment #1*

I favor deauthorization of the Oache project, ^{even though} I have land in the irrigation district. The repayment contract with the Dept of Interior is a first mortgage against all lands in the irrigation districts. I am opposed to the project for many other reasons; I will cite a number of facts about a few of them.

1. Irrigability of the Soil

In 1954 the South Dakota Agricultural College published Bulletin #439, Soil Survey of Spink County. Page 13 of the bulletin states that, working together to produce the Survey were the United States Division of Soil Survey, S.D. Agricultural College Experiment Station, and the Bureau of Reclamation. *See attachment #2 and 3*
This bulletin, among other things, classified the 112 different types of soil found in the county as to soil make up or profile, permeability, productivity, irrigability and salinity.

page 2

It also included a very detailed map showing where each soil type is found. This area is identified by a number and a farmer can, by referring to this map find the exact soil type on his farm.

Irrigability of the various soil types were classified as: Excellent, Good, Fair, Poor, and Unfit for irrigation. The classification given to a soil type depended principally on the permeability of the soil and the presence of salts.

On page 5 of the bulletin are these statements: "One objective of the Spink County Soil Survey is to indicate the irrigation potential of soils in the area.... The key is drainage. Drainage through the soils and their parent materials must be adequate to remove harmful concentrations of salts brought in with irrigation water and to prevent uptake in the soil profile of salts that might be present in the parent material". And farther down the page: "The dominant salts are common ones and include sodium chloride (table salt) sodium sulphate, magnesium sulphate, calcium chloride and calcium sulphate".

The soil must be permeable enough so that enough water can be added, to wash the salts present in the soil, plus the salts in the irrigation water down through the soil and down into the drainage system. If this is not done, a salt build up in the soil will ruin it.

Farmers became concerned when they learned from the Spink County Soil Survey that the irrigability of much of their land was questionable. Along with classification of the soils as Excellent, Good, Fair, Poor and Unfit was a percentage of each type found in the county. (page 19-20-21) We find that, county wide, the Excellent and Good made up only 14.2%. The fair classification made up 22.3% while those classified as Poor and Unfit made up 62% of the county lands. Aberdeen type soil classified as Poor is the most prevalent in the Spink County Irrigation District. It is classified as Poor because of its slow permeability.

Irrigability of individual farms can easily be determined by checking the bulletin maps and references, but the over all picture could not be determined

See attachment #5.*

*Retained in subcommittee files.

page 3

So we color coded that part of the area that is in the irrigation district. All soils classified either Excellent or Good were colored green. The Fair classification was left uncolored. The Poor and Unfit classifications were colored red. The result was a graphic picture of potential irrigation problems with Spink County soils. (color slide picture enclosed)

See attachment #6
2. Over a Ton of Salts per Acre.

Water from the Oahe reservoir contains 513 parts per million (ppm) of total dissolved salts (TDS) (page 125 of House Document #163). This is considered to be good irrigation water. The term 513 part per million (ppm) of total dissolved salts doesn't mean much to most people. It sounds very innocent. If we change that to pounds of salts per acre, it becomes more meaningful. In fact it becomes very frightening when we find that on the basis of 1.6 acre feet of water delivered on each acre on the farm, we are applying 2361.51 lbs of TDS or total dissolved solids which are the salts that must be washed through the soil. Obviously, when soil is listed in the Spink County Soil Survey as a poor or unfit prospect for irrigation because of poor permeability, it takes on a frightening connotation.

3. Potential Salinization Problems.

On page XXVI of House Document #163, Oahe Unit, is this statement: "The irrigation requirements amount to an average annual diversion of about 2.7 acre feet per acre with a farm delivery of 1.6 acre feet per acre". This, with natural rainfall, should be enough water to raise a crop and wash the dreaded salts into the drains, if the soil is permeable enough.

We note that 2.7 acre feet are to be diverted to deliver 1.6 acre feet to the farm. This leaves a discrepancy of 1.1 acre feet to be accounted for. On page VII of the Definite Plan, Oahe Unit we note that 444,800 acre feet are to be pumped from Lake Oahe and that 43,600 acre feet are lost by evaporation from the supply reservoirs covering 29,860 acres. (no evaporation loss seems to be figured against the 213 miles of main canals and 955 miles of smaller canals). This is an evaporation loss of about 10%. If the evaporation loss is 10% then the salinity is increased by 10% because the

page

salts don't evaporate. So we now have 2597.66 lbs of salts delivered per acre to the farm.

4. Sprinkler Systems and Salt.

It seems likely that water application on the farm will be by center pivot sprinkler system. The Agricultural Station at Carrington, North Dakota states that on a very hot windy day the loss by evaporation from a sprinkler system will exceed 40%. So the salts are even more concentrated. If the farmer must put on more water to compensate for evaporation, the salt applied per acre is increased still more.

The point I'm trying to make is that drainage is a very, very important part of an irrigation system. To an irrigator, salt is a 4 letter word! Failure to dispose of the salts in the water and in the soil that could rise by capillary action means certain ruination of the soil. This worries farmers and makes them question the Oahe irrigation project. Is this question justified? We believe it is. Lets look a little farther.

5. Bureau Soil Classification.

On my farm I have an 80 acre plot in the Spink County Irrigation District.

The first map I got from the Bureau of Reclamation indicated that only 24.6 acres were classified as irrigable. *See attachment #7 and 8* The balance was classified as class 6, which is low ground, and class 5s which might be made irrigable by deep plowing to a depth of about 36 inches to break up the hard pan underground to make the soil more permeable. The deep plowing concept is not popular with farmers. For generations farmers have been told to protect the top soil. Water and wind erosion is to be avoided if at all possible. Dropping the top soil in a furrow 36" deep is not acceptable. Then too, deep plowing is only an experiment. It has not been proven that the hard pan in the soil will not eventually recur necessitating repetition of a very expensive operation that is to be done at the farmer's expense.

page 5

But, allowing only 14.6 acres to be irrigated out of 80 acres did seem to indicate caution on the part of the Bureau of Reclamation.

6. District Gerrymandered

It appeared that the outcome of the 1962 election, the last final vote, to grant repayment contract authority, was doubtful. A study was underway which was supposed to overcome such project opposition. It proposed to bring the water to the irrigation area in closed pipes that would go into the open ditches. About that time an offer was made to the opponents to petition their land out of the district. They were told that if they didn't want to irrigate, they should petition their land out of the irrigation district and they wouldn't be affected in any way and those who wanted to irrigate could go on with the project. It seemed logical since the underground pipes would do away with one big objection, the open ditches. So, 525 farmers petitioned their farms out, but by doing so they lost their right to vote. The project area elections carried: 385 'yes' and 98 'no'. Had the opponents stayed in and voted, their 525 'no' votes added to the 98 'no' votes would have resulted in 385 'yes' and 623 'no' and the Oahe project would have been defeated.

See attachment #10

Those who petitioned out of the project learned, belatedly, that they had made a deal in bad faith, because the underground pipe system proposal was dropped; the Bureau said it was too costly. Those farmers not only would be stuck, after all, with open ditches crossing their farms, but they lost their right to vote by petitioning out of the irrigation district. It looked like a definite case of gerrymandering the district. Needless to say, this created more bitterness and a feeling of frustration.

7. Land Reclassification. Bureau has a New Problem.

The petitioning out by the 525 farmers left the project below the 190,000 acres stipulated in Public Law 90-453 that authorized it. For a time the project seemed stopped. But, later a few farmers petitioned some land back in. The Bureau claimed to have the necessary 190,000 acres and the project seemed to be moving ahead.

page 6

But an interesting thing showed up on the Bureau's maps of the irrigation district. On my 80 acre field that originally had only 14.6 acres classified as irrigable, 21.7 acres of the land classified originally as 5s and not *see attachment #8 and 9* irrigable unless deep plowed, now showed up on the Bureau map as class 3 land and irrigable! Why? The land didn't change. It looks as if the Bureau, in desperation, looking for more land to get the 190,000 minimum, had reclassified the land. (see maps enclosed) In other words the Bureau seems willing to gamble with the possible or even likely salinization of farmers land in order to be able to build the project. This fruit jar contains soil from my 80 acre field that the Bureau reclassified as irrigable. To be irrigable the soil would have to be, at least, somewhat permeable. (show jar)

My friend Raymond Braun, Yellotte, S.D. gave a field demonstration of this jar. He had rented land that was similar as to permeability. Ray used a tractor with a bulldozer and scooped out a trench about 70 feet long and up to 4 feet deep. Then he set up a double ring water infiltration test about 5 feet to one side of the trench. Next he used a 6 inch posthole auger and dug a hole laterally in the side of the trench near the bottom at a point that would place the lateral post hole directly below the double ring infiltration test. If the soil would have been permeable enough for irrigation, water should soon have come out into the post hole about 4 feet below it. But water stood in the ring test until it became stagnant. Eventually it would have soaked down, but in no way could you wash the salt through this type of soil into a drainage system!

The South Dakota State University Dean of the School of Agriculture, Dr. Delwyn Dearborn and one of his soils men, Dr Lawrence Fine were called out to view this demonstration. Dr Fine had been active in trying to convince Raymond Braun that his field was irrigable. This demonstration left Fine quite speechless. Someone who objected to this vivid demonstration drove an iron rod or pipe through the ground in the ring tester down into the lateral post hole which, obviously, ruined the test.

page 7

8. The Cost/Benefit and its Effect on the Project Drain Spacing

The cost/benefit ratio of the Oahe irrigation project raises some questions. It is 1.1 to 1. We've heard that the Bureau has a history of listing the benefits as high as possible and showing the costs as low as possible. Let's look at a few questionable statements and procedures.

In the early development years of the project, when the matter of proper drainage spacing for the project came up, the Bureau of Reclamation engaged 3 drainage specialists who were to make a study and report the proper distance for the underground drain tile that were to be laid in an envelope of gravel. This consulting board, in a report dated Dec. 31, 1957 and made to the Regional Director, Billings, Montana, from Consulting Board, Oahe Unit. Subject: Report on Drainability of Lands in the Oahe Unit of the Missouri River Project. On page 36 of this report we find this statement: "... differences exist among the members of the Board. Instead of attempting to agree on a single result which might not represent the actual conclusion of any member of this Board, we are stating the individual conclusions of its members".

The individual members reports are: J.R. Iakisch reported the drain spacing should be 330 feet. C.E. Jacob reported 225 feet. S.T. Harding reported 240 feet.

This advice was ignored because in House Document #163 page 22 the spacing is listed as averaging 490 feet in the east lake plain area and 713 feet in the west lake plain area.

Another factor in drainage spacing is the depth of the water table between drains. On page 4 of the Consulting Board report is this statement: "In its consideration of the drainage of these lands, the board has used a minimum permissible depth of ground water of 4 feet below the ground surface. This depth was applied to the water table midway between drains. The presence of alkali accumulation in the soil of these lands makes it essential that the ground water be kept low enough so that any upward movement by capillarity

page 8

is more than offset by leeching effect of downward percolation. A ground water depth of 4 feet should accomplish this result under irrigation.

The board clearly recommended that the water table be at 4 feet. In a court case in 1974 with the Bureau, we learned that the water table would be held at 3 feet. What was the engineering basis for the change to 3 feet? This matter was raised at the trial and Ray Winger's deposition as chief drainage engineer at the time stated under oath that this change was an administrative decision.

Was the drain spacing and water table changed to cheapen the project to help the c/b ratio? It obviously would. On page IX of the Definitive Plan, Oncho Unit we see there are to be 2970 miles of closed tile drains. According to page 22 of House Document #163 there are to be laid in an envelope of gravel at an average depth of 9 feet. The 2970 miles of these would reach from New York to San Francisco. Putting in half or a third less than the board recommended would obviously cut the cost of the project considerably. The Bureau is said to have a motto: "Anything goes; we can fix it later".

Cheapening the cost of the drains would help the c/b ratio. Was this the reason? We think so. We don't like the idea of the Bureau taking chances on the productivity of our soil.

9. Perimeter Drains

We referred earlier to petitioned out land. A question was addressed to Engineering Consultant, Perry Rahn, S.D. School of Mines and Technology, whether or not there would be seepage from the irrigated land underneath to the non irrigate land. Mr Rahn's answer was: "Well, there is going to be a problem." (page 10, Sub-District hearings on soils and drainage) The Bureau has its answer on page 21 of House Document #163. It is: "There is a possibility that it will be necessary to provide drainage for some of the interspersed lands, part of which would be served under the ultimate plan. Should this become necessary, it may cost as much as \$6 million. (1967 prices) Since the need for drainage for such lands is problematical, the cost for it

page 9

was not included in the project formulation analysis." Were these drains omitted to keep a favorable c/b ratio?

10. Municipal water

Benefits are claimed for bringing water to 17 municipalities. (page 25 of House Document #163) On this page is this statement: "Because most canals and laterals would be operating only during the 5 month irrigation season, communities and industry taking water from such works would need to provide storage for water required during the remaining months." And this statement: "No additional capacity or special structures have been provided for municipal and industrial water, no specific costs are included in the Oahe Unit."

Of the 17 municipalities, 3 have a population of 10,000 or over. These could possibly supplement their water supply during the 5 month irrigation period. The others have a population of 2,000 down to less than 100. There is no way that these smaller towns could build canals and turn out facilities, purification and filtration plants and a 7 month supply reservoir. Is claiming a benefit for this in the c/b ratio reasonable? We think not.

11. No Cost Figured for Project Facilities Land Required.

Another factor that should be considered in a c/b ratio, in this type of an irrigation project, is the good land destroyed for project facilities. When the Bureau of Reclamation was doing what it was intended for, it was reclaiming desert or worthless land. They built an irrigation project first and farms followed. The canals were used as farm boundary lines and did not cut up or damage existing farms. Paying for the land doesn't solve the problem.

In the case of Oahe in South Dakota and Garrison in North Dakota, the projects are superimposed on existing farms. In the case of Oahe in S.D., 110,000 acres are required for project facilities to irrigate 190,000 acres. In the original Garrison, N.D. project, 225,000 acres are required for project facilities to irrigate only 250,000 acres.

Irrigation proponents are quick to point out the increase in income for those who irrigate and the increase in sales tax to the state because of the purchase of fertilizer and other supplies. But where is the loss to the

page 10

state communities and individuals shown because of land taken for project facilities? Should that not be a factor in figuring the c/b ratio?

12. Fish and Wildlife.

The Oahe project claims Fish, Wildlife and Recreation benefits. On page 6 of the April, 1977 U.S. Dept. of Interior Water Projects Review, we find this statement: "On this basis, the review team has determined that no basis exists for claiming the \$1,092,000 in net Fish and Wildlife enhancement benefits and that these benefits should therefore, be omitted from the benefit-cost calculations." Why were these figures put in in the first place?

Perhaps the most revealing c/b statements of all are found in an article published in the Nov. 3, 1974 issue of 'The Farmer' written by R.L. Berry, Associate Professor of Economics at South Dakota State University. Here is an excerpt: "The Bureau of Reclamation evaluated the Oahe project in 1965 and concluded that benefits would be \$1.60 per \$1 of costs. In 1971, they revised their costs estimate and concluded there would be \$1.30 in benefits for each \$1 spent. Unfortunately their study was based on some unrealistic assumptions which land resources economists Robert M. Davis, Robert Barbera and Phil Carver of Johns Hopkins University (Baltimore) have just revised. These revisions and their cumulative effects on the benefit-cost ratio is as follows: *See attachment # 11*

Bureau of Reclamation 1971 benefit cost ratio	\$1.30
Changed farm interests from 4.0 to 7.5%	\$1.13
Changed farm labor rate from \$4.0 to \$1. per hr.	\$1.03
Changed electric power costs from 2.5 to 11.5 mills/KWH	\$.94
Changed farm parity ratio from 94 to 86	\$.76
Changed Federal interest from 3 1/4 to 4 7/8	\$.56
Adjusted farm prices to remove subsidies	\$.23

In 1973, the Bureau presented new cost figures showing benefits per dollar spent had fallen to \$1.10. Had the Johns Hopkins economists started with this figure, the benefits per dollar spent would be even lower. Also, the labor rate of \$1/hr seems very low. Power costs also may be low. The Federal Power Commission has estimated that additional steam generated power will cost 11.55 mills/KWH by 1980." (unquote)

page 11

12. How Could Such a Project be Authorized?

, In authorizing the Oahe project, it is clear that congress was not given an accurate picture. The c/b ratio reflects an unreal picture of the costs and the benefits are exaggerated beyond reason. No doubt local politics, Chamber of Commerce people and contractors and earth moving equipment dealers who would profit from its construction were the prime movers to get the project authorized. Pressure was no doubt applied to influence the Bureau of Reclamation. The possibility of ruining many thousands of acres of good productive dryland farms needs to be publicized in Congress.

The cry goes on by some that the Dept. of Interior owes South Dakota a debt because of all the land that was inundated after the Missouri river dams were constructed to prevent flooding in other states. That debt cannot be paid by building an irrigation project that takes another 110,000 acres of productive land for project facilities to build a 190,000 acre irrigation project that, if built under present plans, would likely ruin many thousands of acres of some of the most productive land in our state.

There is only one way to go with the Oahe project and that is to deauthorize it. Congress owes that to the farmers whose land is saddled with the Oahe repayment contract which is a first mortgage on that land.

Thank you again for holding the hearings on the Oahe project in South Dakota so anyone who wanted to could be heard.

John Elsing
Mansfield, S.D.
57460
Phone: 605-887-3262

John Elsing



United States Department of the Interior

BUREAU OF RECLAMATION
WATER AND POWER RESOURCES SERVICE

WASHINGTON, D.C. 20240

IN REPLY
REFER TO: 735
832.

SEP 3 1981

#1

Mr. John Elsing
Mansfield, SD 57460

Dear Mr. Elsing:

This is in response to your letter of August 22 to Secretary Watt requesting our interpretation of Section 3(b) of Senate Bill 1553 relative to its effect on the authority to construct certain features of the Oahe Unit in South Dakota.

Since S. 1553 is still under review and the Administration has taken no position on the bill, we can only give you our informal opinion relative to section 3(b) at this time. We do not believe the bill as written would necessarily remove any features from the existing Oahe Unit authorization. In our opinion, determination of the specific features on which construction would be forbidden by section 3(b), because their only use would be to deliver water to the West Brown and Spink Irrigation Districts, should depend on the outcome of the studies to be authorized by section 2 of the bill.

We regret that we are unable to be more specific at this time. However, we appreciate knowing your views.

Sincerely yours,

Aldon D. Nielsen

Acting Assistant
Commissioner

Mansfield, S.D.
August 22, 1961

The Honorable Sec. of the Interior
Mr James Watt
18th and C. Street, N.W.
Washington, D.C. 20240

Dear Sec. Watt,

I am a farmer living in Spink County, South Dakota with land in the Oahe irrigation district. At one time I favored the Oahe Irrigation project, but for many years I have worked for its deauthorization.

Recently Senator Abdnor and Congressman Clint Roberts of South Dakota have introduced a bill in Congress, Senate Bill 1553, that needs clarification as to how your office will interpret some of it.

The following is Sec. 3 (b) : "those features of the authorized plan of development for Oahe Unit, Initial Stage, which were designed for and could be used only to deliver irrigation water to Spink and West Brown Irrigation Districts shall not be constructed by the Secretary, but nothing in this Act shall be deemed to limit the authority of the Secretary to recommend development of other features, based upon the study authorized by Sec. 2 (a) (1) of this act".

The underlined phrase bothers me. I will be impacted by the Oahe project features consisting of the Cresbard canal, the West Main canal, and my land that is in the irrigation district referred to as the West Lake Main area. A casual reading of this part of the bill might lead one to believe that none of these features will be built since we are told, the water is to go to some other area such as the Lower James Irrigation District or to an area referred to as Condak.

Municipalities and Industries are to get water from the Cresbard canal and the West Main canal, principally the city of Aberdeen so these features could be built, Right?

This section of the bill might stop the construction of the canals in the irrigation district but I'm not even sure of that. It depends on what is meant by the phrase "but nothing in this Act shall be deemed to limit the authority of the Secretary to recommend development of other features". This phrase definitely would permit the Secretary to add irrigation areas other than the West Brown and Spink County districts. Is my reasoning correct?

Here is another question: What features of the original Oahe project, if any, could not be constructed if Senate bill 1553 were passed?

One more question: If Senate bill 1553 were passed, would this relieve me from being impacted by any Oahe features? For example, the West Main canal diagonals across a section of my land.

Thank you very much for any consideration you may give this matter. An early reply would be very much appreciated. Thank you.

Sincerely yours;

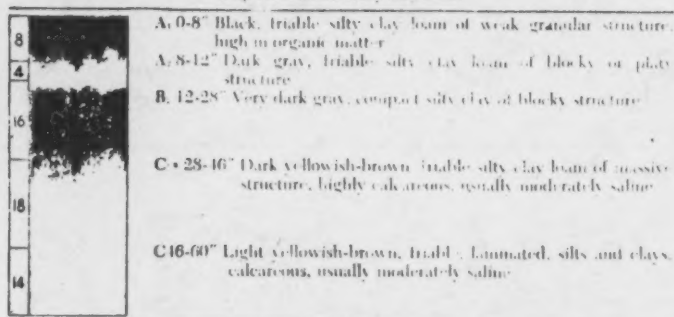
John Elsing
John Elsing
Mansfield, S.D.
571460

No. 1 Aberdeen Silty Clay Loom, Level (0-1%)

This is an imperfectly drained claypan soil occurring on level positions on the Glacial Lake Dakota Plain. It is extensive, and usually occurs in large bodies away from stream valleys. The parent material is lake-laid silts and clays. The claypan subsoil is only slowly permeable and salts and alkali are usually present in moderate amounts below the subsoil. There are no stones in or on the soil. A profile diagram is shown (Fig. 7) along with a profile description.

Aberdeen silty clay loam is a moderately fertile soil of fair tilth. It is not subject to water erosion and is subject to wind erosion only during periods of prolonged drought. This unit is a poor prospect for irrigation, due principally to the low permeability of the subsoil and parent material.

Fig. 7. Aberdeen silty clay loam



Use and Management. Aberdeen silty clay loam is used principally for the production of small grains. Corn is not an adapted crop because of the presence of the claypan subsoil which is poorly aereated and which restricts root growth and moisture penetration. The principal management problems are delayed planting as a result of wet soil, maintaining a supply of available nitrogen, and maintaining tilth.

Practices which will aid in the solution of these problems are the use of legumes which provide a source of nitrogen and organic matter, the use of commercial nitrogen, and timely tillage to prevent loss of tilth. See discussion of Soil Management Practices and Principals for details. This soil is in Management Group 6 for crop yield predictions.

No. 2 Aberdeen Silty Clay Loom, Nearly Level (2-3%)

This soil differs from soil No. 1 by occurring on nearly level rather than level slopes. It is of rather limited extent and occurs at the lower parts of

No. 15 Beotia Silt Loam, Level (0-1%)

This is a well-drained, friable soil occurring on level positions near streams on the Glacial Lake Dakota Plain (Soil Area A, Fig. 3). The soil is of extensive occurrence over all of the Lake Bed area and although the terrain is level and measures 1 percent or less in slope, it has a slight surface gradient. The soil occupies what might be called levee positions formed by overflow of a stream and thus its occurrence is in long strips of variable width paralleling the stream channels. The parent material of this soil is lake-laid silts. The soil profile is permeable, yet has good water holding capacity. There are occasionally slight concentrations of salts and alkali in the parent material. There are no stones in or on the soil. A profile diagram and description are shown in Fig. 9.

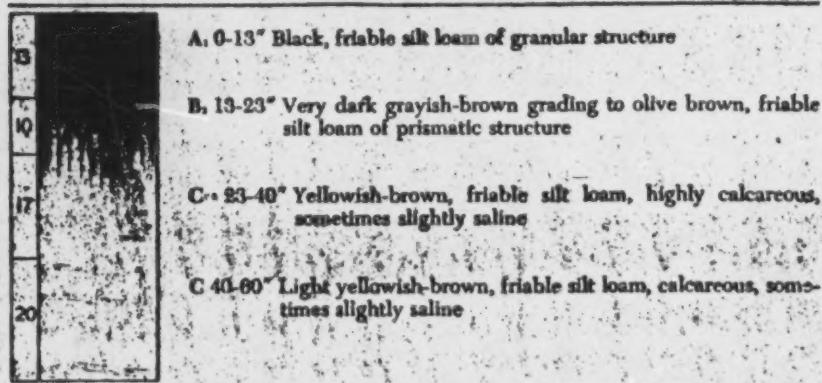
Beotia silt loam level, is a fertile soil of good tilth. It is not subject to water erosion and is subject to wind erosion only during periods of prolonged drought. This soil is an excellent prospect for irrigation if drainage through the parent material is adequate.



Photo by C. A. Mogen, SCS

Landscape of Beotia silt loam. The Beotia soil occupies the nearly level area in the foreground. In the background the Great Bend soils occur on the slightly sloping terrain. Beotia and Great Bend are used primarily for spring wheat.

Fig. 9. Beotia silt loam



Use and Management. This soil is used primarily as cropland and good yields are obtained. Small grains and corn are adapted crops. This soil is considered one of the best in the county and can be kept at a high level of productivity by maintaining available nitrogen either by inclusion of a legume in the rotation or by using commercial nitrogen fertilizer. This soil is in Management Group 3 for crop yield predictions.

and their occurrence is in long thin strips along the streams. Although sorted some by moving water they usually have a rather narrow range in texture and include principally mixtures of silt, clay, and sand. When the sediments have accumulated at the foot of the slope where they originated they are referred to as colluvial-alluvial sediments.

Loess consists of uniform silty sediments laid down by the wind. In Spink County the loess occurs as a mantle overlying parts of the East Till Plain northeast of Doland. The loess in this area is about 3 feet thick. The bed of the Glacial Lake Dakota was apparently the source of the loess and it probably blew from this area soon after the retreat of the ice before the Lake Bed was stabilized by vegetation.

Salinity of Soil Parent Materials in Spink County. One objective of the Spink County soil survey is to indicate the irrigation potential of the soils in this area. This is done in the section of the report titled "Use, Management, and Productivity of the Soils of Spink County" and also in the descriptions of the individual types and phases.

Even though some of the soils now are good irrigation prospects, if gravity irrigation is to be used extensively in the James River Basin, the salinity of the soil parent materials will become a factor in the successful use of the soils for this purpose. The key is drainage. Drainage through the soils and their parent materials must be adequate to remove harmful concentrations of

salts brought in with the irrigation water and to prevent uptake to the soil profile of salts that might be present in the parent materials. Thus the presence or absence of salts in the soil parent material is a factor in assessing the potential irrigability of the soils.

All soils contain soluble salts; in fact nutrients which nourish growing plants usually occur in the form of salts in the soil. Saltness becomes serious when the concentration increases to a degree toxic or harmful to plants. Although it varies somewhat with the kind of plant, salinity is harmful when it gets over a concentration of 0.15 percent (about 1 part salt to 666 parts of dry soil). Plant growth hangs in a delicate balance, and if soils are salted or become salted they cease to be good media for the growth of plants.

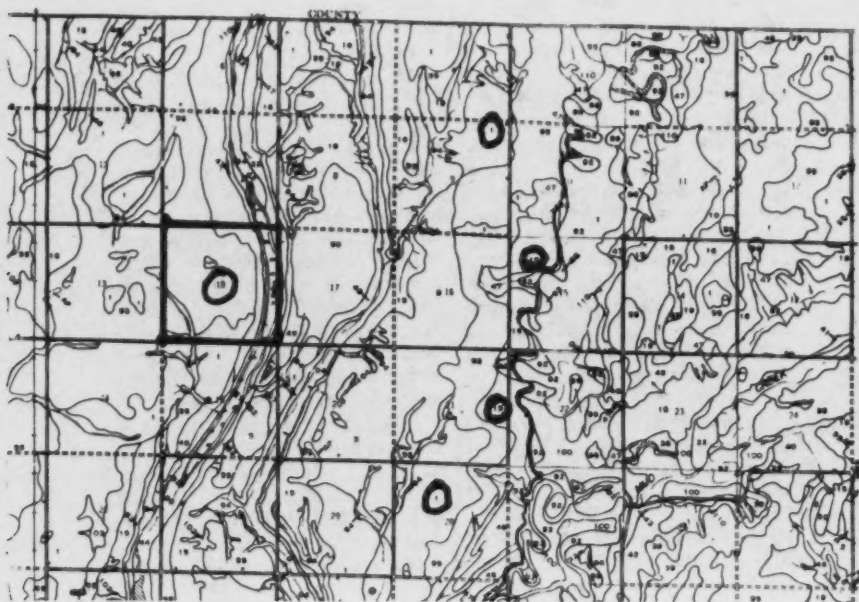
The form of the salts when they occur in soil parent materials is the same as the form of salts in soils. The dominant salts are common ones and include sodium chloride (same as table salt), sodium sulfate, magnesium chloride, magnesium sulfate, calcium chloride, and calcium sulfate. Calcium carbonate is present in large amounts in the parent materials of all Spink County soils but is quite insoluble and thus is unimportant as a toxic salt in soils.

The salinity of the soil parent materials in Spink County is shown in Fig. 4. It should be emphasized that this map is not completely accurate because the salinity of parent materials may change over a distance of a few feet. However, it does give

SPIK COUNTY SOUTH DAKOTA

#5

R-63-W



This is a copy of a segment of the Spink County Soil Survey map.

The 1 inch squares are sections consisting of 640 acres.

The number in the middle of the 1 inch square indicates the Township section number.

The area around this number 1 indicates this is Aberdeen type soil and is classified as a poor prospect for irrigation. See page 22 of Soil Survey of Spink County (attachment #2). It would be colored red on the color coded map.

The area around this number 15 indicates this is Beotia type soil and is classified as an excellent prospect for irrigation. See page 29 of Soil Survey of Spink County (attachment #3). It would be colored green on the color coded map.

CAKE UNIT

County San Diego, S. Dak.

Date 10-21-68

Owner: Dr. J. E. Smith

Sec. 7, T. 129N, R. 64W.

Map No. 24/21

Land Classification Tabulation by 40-Acre Tracts

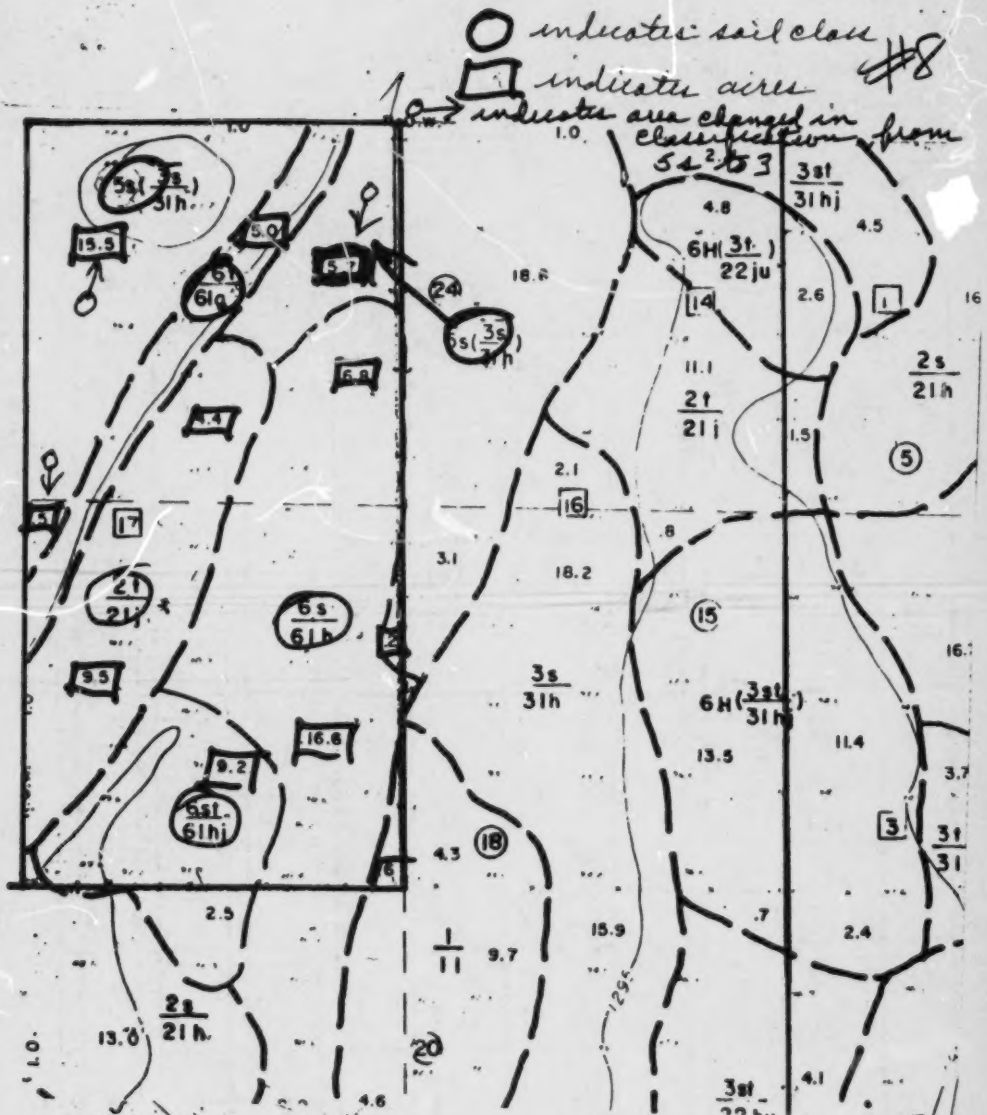
Legal description		Acreable classes			Total acreable	Nonacreable classes			Total
		1	2	3		4a	5	FCW	
NE1/4	NE-NE								
	NW-NW								
	SW-NE								
	SE-NE								
NE1/4	NW-NE								
X	NE-SW			4	4	2	1	3	30
X	NE-SW								
	SE-SW	6	96		10	1	5	1	90
	SE-NW								
SW1/4	NE-SW								
	NW-SW								
	SW-SW								
	SE-SW								
SW1/4	NE-SE								
	NW-SE								
	SW-SE								
	SE-SE								
TOTALS		6	96	4	146	21	9	30	714

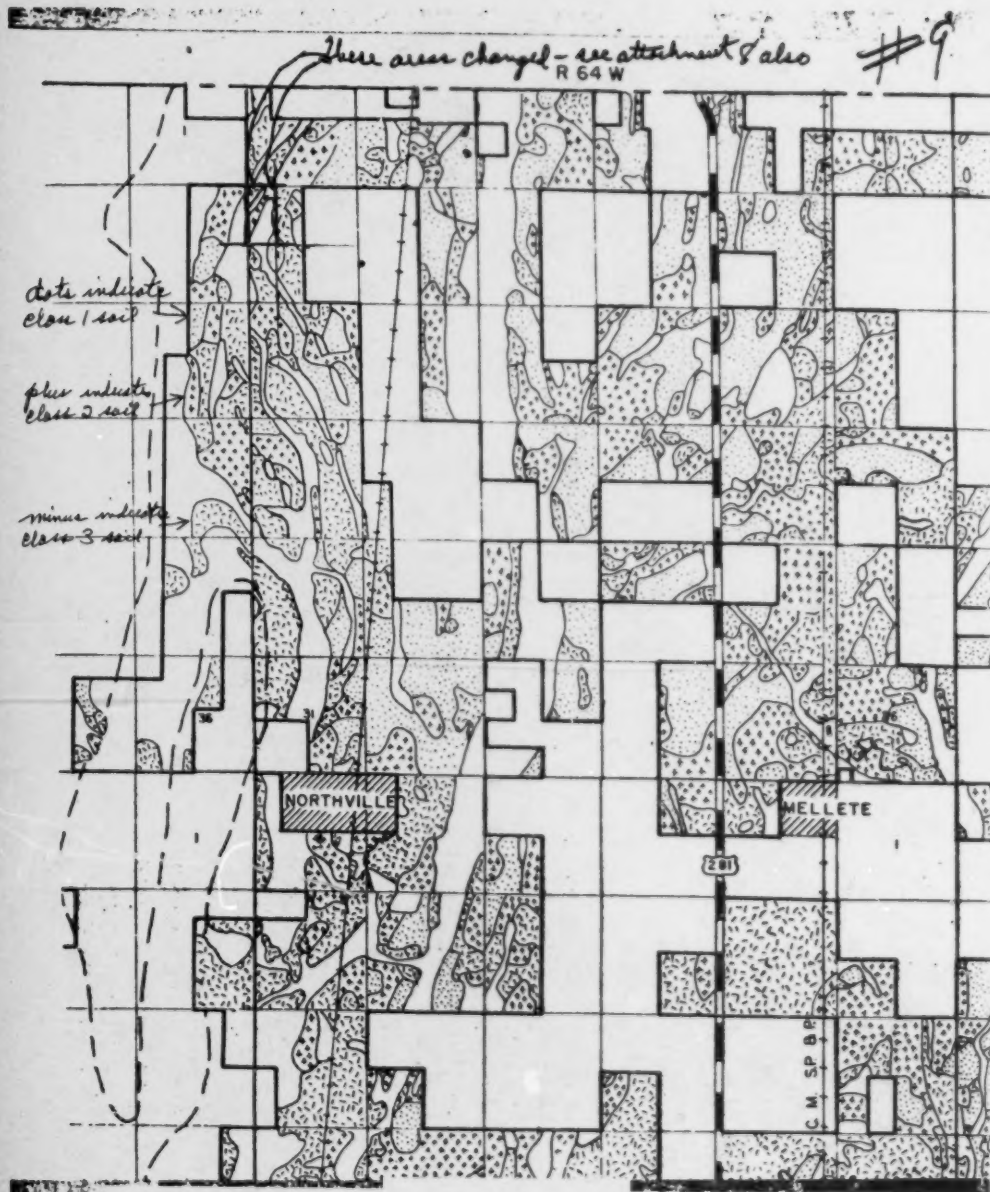
Arable acreage refers to the gross acreage in a tract of land that is suitable for irrigation before deductions are made for project and farm supply systems or other right-of-way and nonproductive uses.

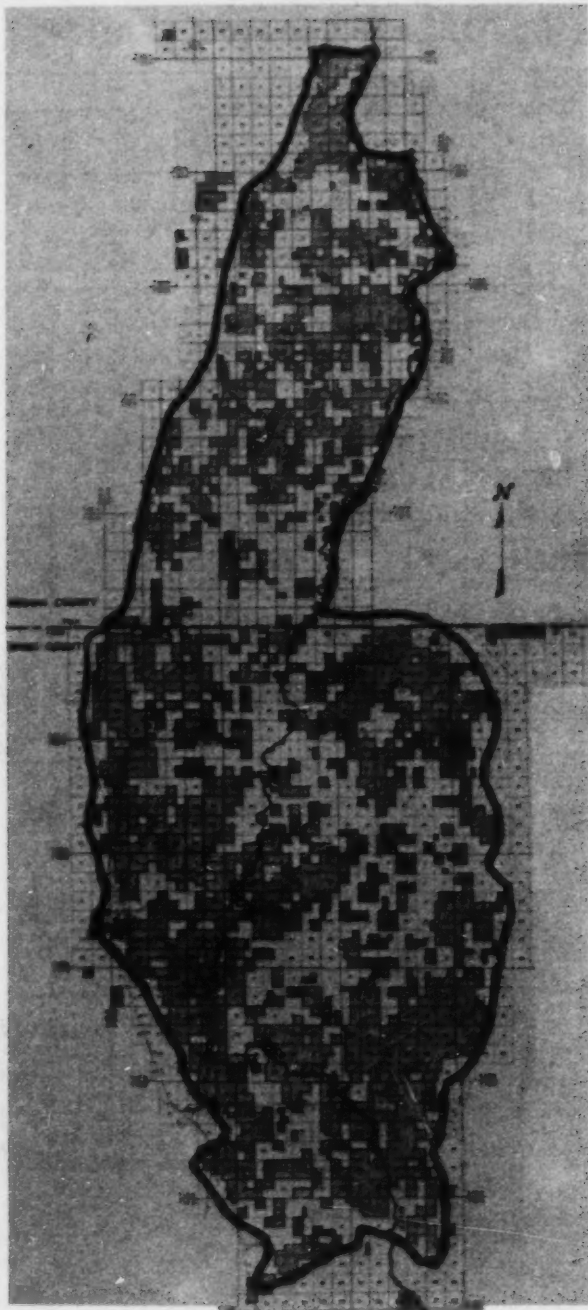
~~Nonarable 5s land may be considered as potentially irrigable if deep plowing experiments show this practice to be a permanent way to break up the claypan to create a permeable soil profile.~~

ROW: Refers to acreage in existing roads and rights-of-way.

Class 6 includes all other land areas that are not irrigable.







This map shows the recommended Fort Brown and Brown County Irrigation Districts.

The red line is the approximate boundary line of the original district. The shaded area is the present district.

The unshaded area is the land that was withdrawn out of the district by persons who did not want to irrigate.

The district is over 60 miles long and over 20 miles wide. If the 100,000 acre district were in a contiguous area, it would be 17 miles by just under 17 miles. It would cover $\frac{1}{10}$ of 1 percent of South Dakota's agricultural land.

Oahe—No!

(from page 14)

much of the cost of Oahe irrigation will be borne by South Dakotans.

Will the project require an increase in electric rates? Not if present rates are high enough to pay the estimated \$300 million cost. But if the project is not built, electric rates could be lowered. Lower rates might attract more industry and provide more job opportunities. Lower rates would mean lower farm and family living costs.

However, if the Oahe project is not built, then 14% of the \$345 million spent on the Oahe dam allocated free-of-charge to Oahe irrigation may be paid from electric income. Question: Would it be better to pay 14% of \$345 million that the Oahe dam has cost or 87% of \$300 million or more irrigation may cost?

Why the approval?

The Bureau of Reclamation evaluated the Oahe project in 1965 and concluded that benefits would be \$1.60 per \$1 of costs. In 1971, they revised their cost estimates and concluded there would be \$1.30 in benefits for each \$1 spent. Unfortunately, their study was based on some unrealistic assumptions which

land resource economists Robert K. Davis, Robert Barbera and Phil Carver of Johns Hopkins University (Baltimore) have just revised. These revisions and their cumulative effects on the benefit-cost ratio are as follows:

Bureau of Reclamation, 1971 benefit-cost ratio	\$1.30
Changed farm interest rate from 4.0 to 7.5%	\$1.13
Changed farm labor rate from \$4.0 to \$17/hr	\$1.01
Changed electric power costs from 2.0 to 11.5 mills/kwh	\$.94
Changed farm parity rate from 94 to 95	\$.93
Changed federal interest from 3 1/2 to 4 1/2%	\$.96
Adjusted farm prices to remove subsidies	\$.89

In 1973, the Bureau presented new cost figures showing the benefits per dollar spent had fallen to \$1.10. Had the Johns Hopkins economists started with this figure, the benefits per dollar spent would be even lower. Also, the labor rate of \$17/hr seems very low. Power costs also may be low. The Federal Power Commission has estimated that additional steam-generated power will cost \$1.35

Bureau of Reclamation claims countered

THE BUREAU of Reclamation claims several specific advantages for the Oahe project. Some of these claims and Dr. Berry's comments follow.

Bureau: "Development of the Oahe project would result in . . . diversified crop and livestock production."

Comment: The Bureau says the most important crops will be alfalfa and corn. Sugarbeets are not likely to be grown now that the subsidy has been removed. Truck crops are not likely to be able to compete with areas closer to markets. There may be more livestock but hardly more diversification.

Bureau: "Development of the Oahe unit would result in . . . an increased number (500) of farms."

Comment: First, this claim is based on the 160-acre limitation that applies to Bureau projects. This unrealistic law is regularly circumvented by having the wife or some other family member hold part of the land. Also, this requirement does not prohibit renting of irrigated land. Second, the 500-farm increase does not take into account the number of farms lost by the 110,000 acres that will be required for reservoirs and canals. Third, is spending \$1,600/acre for irrigation the best way to stabilize or increase the number of farmers?

Bureau: "Development of the Oahe unit would result in . . . increased investment opportunity."

Comment: In planning this project,

the Bureau assumed there would be full employment and highly profitable agriculture, as indicated by their assumption that farmers would have the favorable price-cost relationships that existed briefly in 1973. In such an economy, there would be many attractive opportunities for investment. Hence, the Oahe project would be completely unnecessary to provide more—at the high cost of \$1,600/acre.

Bureau: "Development of the Oahe unit would result in . . . increased and stabilized net farm income."

Comment: Irrigation water will increase and stabilize yields but will not increase net farm income without a very heavy subsidy by the users of Missouri Basin electric power. The Bureau says electric users would pay \$1,440/acre to increase the net income of 500 to 1,000 farmers.

Bureau: "Development of the Oahe Unit would result in . . . improved rural community facilities, such as schools, roads, mail services, etc."

Comment: Why not spend the \$338 million directly on improving community facilities all over South Dakota? Much more improvement might then result. The people who pay, mostly South Dakota's users of MRB electric power, should have a choice. We should seek the cheapest or most beneficial way to improve community services. The Oahe project is unbelievably expensive, both as a way of increasing production and hence improving community services.

Bureau: "Development of the Oahe unit would . . . justify the large sacrifice of agricultural land to the (Missouri River) reservoirs."

Comment: The federal government paid good prices for land flooded by the reservoirs. Instead of the land, we have large fresh-water reservoirs, second only to the Great Lakes in size. These lakes are quite valuable for fishing and recreation. Even if there was some small sacrifice, the Bureau has not demonstrated that Oahe irrigation is the best way to compensate for it. Local communities along the reservoirs might be compensated more directly by payments in lieu of taxes lost.

Bureau: Development of the Oahe unit would create a need for new processing plants. "These . . . would include sugar refineries, canneries, meat-packing plants, alfalfa-dehydration plants, dairy product enterprises and locker plants."

Comment: Sugarbeet refineries are not likely since there is no longer a sugar subsidy. Fruit and vegetable production in the area does not seem promising—judging by the experience of similar irrigation projects in the Great Plains and other areas far from markets. But the important thing to remember is that the \$338 million should be spent only for projects having maximum net benefits. Since the Oahe project may not produce direct benefits, the money should be spent only on projects that do. Otherwise, we are saying that the way to make money is to waste money. This is one of the oldest fallacies of economics.

Bureau: "Development of the Oahe unit would . . . increase tax revenues to federal, state and local governments."

Comment: Users of Missouri River Basin power will be "taxed" enough to pay 87% of the cost of this project to produce food that could be produced much more cheaply by other means. Food produced by cheaper means would generate larger net incomes and larger tax revenues than the Oahe project. **□**

Viewpoint and comment

A closer look at Oahe

THERE'S indication, uncertainty and subterfuge arising over the Oahe Irrigation Project, now awaiting only congressional funding before digging starts. As pointed out in the article on page 14, cost estimates have risen tremendously since Congress authorized the project in

prior to creation of the Oahe Conservancy Sub-District in 1960, formation of the West Brown and Spink County Irrigation District in 1965, congressional authorization for the irrigation project in 1966 and, with approval of voters in the irrigation district, the participating (repayment) contracts and security contracts were executed in 1968.

Senator MURKOWSKI. Thank you, Mr. Elsing, and we are sure appreciative of your exhibit, which certainly seems to indicate substantiation of your points. Thank you, sir.

Mr. Brad Tschetter?

STATEMENT OF BRAD TSCHETTER, HURON, S. DAK.

Mr. TSCHETTER. My name is Brad Tschetter; I am from Huron; I farm near Huron in Beadle County. My farm is located within the Oahe subdistrict, and my farm is also located on the site of the future Byron Reservoir, which is a feature of the Oahe project.

I appreciate the opportunity to testify. I will try to be brief.

There is a move to cut waste in government in Washington at this time. Attempting to cut waste in the Federal Government is nothing new to the majority of the people in the Oahe subdistrict.

Many people in the subdistrict have worked long and hard to stop the blatant boondoggle known as Oahe. We heard somebody mention earlier that we shouldn't throw the baby out with the bathwater, but in this case it is Rosemary's baby.

Oahe is a waste of money, and we have heard why earlier today, and I won't reiterate that in the interest of time. Most all agree Oahe should not be built. Many say it should be deauthorized, including most of the county commissions—the Brown and Spink County Irrigation Districts on the Oahe subdistrict.

Where the disagreement lies is under what conditions Oahe should be deauthorized. There has been much talk of using the Oahe authorization to build some other project or projects in the State of South Dakota. I do not believe this is possible.

I have six letters here from the Department of Interior, Bureau of Reclamation, and the Executive Office of the President, Office of Management and Budget, and I would just read a passage from one of them which I think summarizes all of it quite well.

The use of completed Oahe Unit facilities for another project would require congressional action. Project authorization, per se, and certainly repayment contracts are not transferable from project to another. A new project serving areas originally included in the Oahe would require new authorization for planning construction.

And the other five letters say much the same thing.

The Oahe authorization is very explicit and spells out exactly what the purpose of the project is and where the features of the project are to be located and for what purpose. Therefore, Oahe should be deauthorized to eliminate this threat from many family farms and the taxpayers of the subdistrict.

I believe an exchange for Oahe in South Dakota should be given substantial future water rights to replace the water that the Oahe project should have used; forgiveness of all debt occurred in the features which were partially completed unless for some other project; and funding of the WEB project and other projects which are in the State water plan.

Now, I might add here that Cendak is not part of the State water plan. It was considered in the State legislature, and it was rejected.

In closing, as a taxpayer of the U.S. Government, I don't believe that something that is a bad deal for the Federal Government can possibly be a good deal for the citizens of South Dakota.

Thank you.

Senator MURKOWSKI. Thank you very much, Mr. Tschetter.

The last witness on the panel is Mr. Kenneth Olson.

Mr. Olson?

STATEMENT OF KEN OLSON, JR., TURTON, S. DAK.

Mr. OLSON. Thank you, Senator. I live in Spink County, and I farm land in the Spink County irrigation district. I am opposed to the Oahe project or any other type of a canal delivery system in my area.

I will try to be brief and skim through this testimony, but I would like it all entered into the record, please.

There are a lot of things that I didn't like about the Oahe project, but what I would like to talk about today a little bit is the way the benefit/cost ratio is derived. Dr. Calvin Kent, an economist formerly with the University of South Dakota, prepared a report in which he states the requirements that cost/benefit ratios be determined for Government projects.

It was stated that the Bureau of Reclamation purposely alters the factors that were used in determining cost/benefit ratios for the Oahe project. They did this for one reason, and that's as Dr. Kent said, so that the dollars spent on this project produced at least \$1 worth of benefits.

The way they did this was in 1975, they reanalyzed the cost/benefit ratio from 1971 and raised the yields for the crops in the project quite a bit. You can see by the chart on page 2 how they compare with the average yields reported in the annual report of the South Dakota Crop and Livestock Reporting Service, which showed the average yields for Brown and Spink Counties and for the entire State for 1973 and 1974.

The Bureau's estimate for corn was 152 bushels, which is substantially higher than the actual crop averages for corn under irrigation, which ranged from 115 bushels down to 64 bushels.

I have attached two sheets from the Annual Report which will confirm these figures.

Also, in another study which was conducted by the Johns Hopkins University in Maryland in 1974, which included Oahe, economists stated that the Bureau had altered the cost/benefit analysis to improve the appearance of projects under their control. The study goes on to say that the Bureau improperly specified the cost of borrowing to the farmer at 4 percent interest. They underestimated the cost of hired labor at \$1 per hour, and they overstated market prices at a rate of 94 percent of parity. They also understated the costs in evaluating farm budgets.

The results of this study, Johns Hopkins determined that the Bureau's ratio of \$1.28 benefits to \$1 cost was incorrect. They said that a more realistic cost/benefit ratio would be 94 cents to \$1 cost.

Since that time, the cost of the Oahe project has greatly increased and the farm prices have more or less remained about the same, so no doubt that ratio would be much worse today.

Senate bill 1552 talks about providing money to study alternative uses for the Oahe project. I don't feel that it is right to spend millions of dollars studying soils and feasibility when millions have already been spent studying these areas.

In testimony before the Oahe conservancy subdistrict, Preston Funkhouser, who is the former manager of the Oahe project, stated, and I quote:

Alternative Federal multipurpose projects similar in size, scope and average cost per acre to the authorized 190,000-acre Oahe unit are essentially nonexistent in the 15½-county area. When considering factors such as size, compactness of service area, suitability of soils, subsurface drainability, pump lifts, adaptability of topographical features and source of suitable water supply, it becomes impossible to locate a feasible alternative of similar magnitude within the geographical boundary of the Oahe Conservancy Subdistrict.

I think you can apply that statement to the Cendak unit, which is a canal system just like Oahe.

Also, I don't think it's right to provide money for studies that may have misleading and untruthful conclusions, such as the benefit/cost studies and which might happen to mislead Congress.

I would like to thank you, Senator, for coming out to South Dakota and listening to all of us, and I hope that you, too, will conclude that the Oahe project should be deauthorized.

[The prepared statement of Mr. Olson follows:]

TESTIMONY OF KEN OLSON, JR.
 OAHE DEAUTHORIZATION HEARING
 SEPTEMBER 12, 1981
 PIERRE, S.D.
 SENATE SUB-COMMITTEE ON WATER AND POWER
 PAGE ONE

SENATOR MURKOWSKI-

MY NAME IS KEN OLSON, JR.. MY ADDRESS IS TURTON, S.D. I REQUESTED TO TESTIFY BEFORE YOUR COMMITTEE TODAY, BECAUSE OF THE FACT THAT I FARM LAND IN THE SPINK COUNTY IRRIGATION DISTRICT AND I AM OPPOSED TO THE OAHE PROJECT OR ANY TYPE OF A CANAL DELIVERY SYSTEM. MY OPPOSITION TO THE OAHE PROJECT IS BASED ON FACT AND NOT ON EMOTION. WHILE I REALIZE THAT A CONTROVERSIAL PROJECT LIKE THIS IS OFTEN TANGLED IN EMOTION ON BOTH SIDES, I THINK IT IS IMPORTANT TO DEAL WITH FACTS. AS THE CHAIRMAN OF A SENATE SUB-COMMITTEE, I'M SURE THAT YOU REALIZE THE IMPORTANCE OF THIS.

AS I BECAME MORE FAMILIAR WITH THE OAHE IRRIGATION PROJECT I BEGAN TO LOOK AT THE FACTS SURROUNDING THE VARIOUS ASPECTS OF THE PROJECT. ONE OF THE ASPECTS THAT BOTHERED ME THE MOST WAS THE BUREAU'S DEVELOPMENT OF THE BENEFIT/COST RATIO. THE BENEFIT/COST RATIO FOR THE OAHE PROJECT WAS BASED ON SEVERAL IMPORTANT FACTORS.

IN A REPORT PREPARED BY DR. CALVIN KENT, AN ECONOMIST FORMERLY WITH THE UNIVERSITY OF SOUTH DAKOTA, HE STATED-

"PUBLIC LAW REQUIRES THAT BEFORE A GOVERNMENT PROGRAM IS UNDERTAKEN IT MUST BE DEMONSTRATED THAT THE PROJECT IS WORTH WHAT IT WILL COST. ALL FEDERAL PROJECTS, INCLUDING IRRIGATION PROJECTS ARE SUBJECT TO THIS LAW AND REQUIRE A COST/BENEFIT REVIEW. THE BASIC IDEA BEHIND COST/BENEFIT ANALYSIS IS SIMPLE: DOES A DOLLAR SPENT ON THIS PROJECT PRODUCE AT LEAST ONE DOLLAR WORTH OF BENEFITS. OR HOW DOES IT HAVE A COST/BENEFIT RATIO OF \$1.00 TO \$1.00."

IN DETERMINING COST/BENEFIT AN ECONOMIST SUBSTITUTES REVENUE, THE USUAL MEASURE OF BENEFIT, WITH THE TERM SOCIAL BENEFIT, WHICH MEANS ANYTHING THAT IMPROVES THE WELL BEING OF MAN. THE WORD EXPENDITURE, USUALLY CONSIDERED THE MEASURE OF COST, IS SUBSTITUTED WITH OPPORTUNITY COST...WHICH IS WHAT THE DOLLAR EXPENDED OR SPENT COULD PURCHASE IF PUT TO AN ALTERNATIVE USE BY GOVERNMENT, OTHER THAN THE PROJECT." (THE ECONOMICS OF THE OAHE PROJECT, DECEMBER 9, 1974)

IN DETERMINING THE COST/BENEFIT FOR THE OAHE PROJECT, THE BUREAU OF RECLAMATION PURPOSELY ALTERED THE FACTORS THAT WERE USED IN DETERMINING THE COST/BENEFIT RATIO. THEY DID THIS FOR ONE BASIC REASON. TO ALTER THE COST/BENEFIT RATIO SO AS DR. KENT SAID, THE OAHE PROJECT WOULD SHOW THAT, "A DOLLAR SPENT ON THIS PROJECT WOULD PRODUCE AT LEAST ONE DOLLAR WORTH OF BENEFITS."

KEN OLSON, JR.
PAGE TWO

IN 1975, THE BUREAU OF RECLAMATION REANALYZED THE COST/BENEFIT RATIO FOR THE OAHÉ PROJECT. THE FOLLOWING INFORMATION SHOWS THAT THE BUREAU DETERMINED THE IRRIGATION BENEFITS FOR THE REVISED RATIO, BASED ON HIGHER YIELDS THAN THOSE USED TO DETERMINE THE PROJECTS COST/BENEFIT RATIO IN 1971. THE CROP YIELDS THAT THEY USED WERE HIGHER THAN THE ACTUAL YIELDS REPORTED FOR THESE CROPS UNDER IRRIGATION IN THE OAHÉ PROJECT AREA AND SOUTH DAKOTA.

	BUREAU'S ESTIMATE	BROWN CO.** 1973-1974	SPINK CO.** 1973-1974	STATE** '73-'74
CORN(GRAIN)				
BU. PER ACRE	152	115 90	91 64	98 84
ALFALFA HAY				
TON PER ACRE	6.9		5 4.5	3.1 3.1
OATS				
BU. PER ACRE	119			65 49
BARLEY				
BU. PER ACRE	89			45 34

** AVERAGE YIELDS (IRRIGATED) REPORTED IN THE ANNUAL REPORT OF 1975 OF THE SOUTH DAKOTA CROP AND LIVESTOCK REPORTING SERVICE.

I'VE ATTACHED TWO SHEETS FROM THE ANNUAL REPORT OF THE SOUTH DAKOTA CROP AND LIVESTOCK REPORTING SERVICE WHICH CONFIRM THESE FIGURES. I'VE LABELED THEM ATTACHMENT 1.

I'D ALSO LIKE TO ADD THAT, BESIDES IRRIGATED CROP PRODUCTION, THE BUREAU OF RECLAMATION ALSO MADE SEVERAL OTHER ERRORS OR OVERSITES IN DETERMINING THE COST/BENEFIT RATIO. IN A 1974 STUDY BY JOHN HOPKINS UNIVERSITY IN MARYLAND, THREE ECONOMISTS STATED THAT THE BUREAU HAD ALTERED THE COST/BENEFIT ANALYSIS TO IMPROVE THE APPEARANCE OF PROJECTS UNDER THEIR CONTROL. THE STUDY, WHICH I HAVE ATTACHED, GOES ON TO SAY THAT THE BUREAU IMPROPERLY SPECIFIED THE COST OF BORROWING TO THE FARMER AT FOUR PERCENT INTEREST. THEY UNDERESTIMATED THE COST OF HIRING LABOR AT A \$1.00 PER HOUR. THEY OVERSTATED MARKET PRICES AT A RATE OF 94% OF PARITY. THEY ALSO UNDERSTATED THE COSTS IN EVALUATING FARM BUDGETS.

THE RESULTS OF THIS STUDY, JUST TAKING INTO CONSIDERATION THESE AND OTHER FACTS, WAS THAT THE BUREAU'S RATIO OF \$1.28 TO \$1.00 (RATIO AT THAT TIME) WAS INCORRECT. THE STUDY SAID THAT A BENEFIT/COST RATIO OF .94 TO \$1.00 WAS MORE LIKELY TO BE THE CASE. DUE TO THE FACT THAT INFLATION HAS GREATLY INCREASED THE COST OF THE OAHÉ PROJECT, THIS RATIO WOULD BE ALTERED EVEN GREATER.

IT IS MY HOPE THAT THE SUB-COMMITTEE ON WATER AND POWER WILL TAKE A VERY CLOSE LOOK AT THE PROBLEMS THAT I JUST SPELLED

KEN OLSON, JR.
PAGE THREE

OUT, CONCERNING THE BENEFIT/COST RATIO'S OF THE OAHE PROJECT. CONSIDERING THE FINANCIAL SITUATION THAT OUR COUNTRY CURRENTLY FACES, I DON'T THINK IT IS A VERY WISE INVESTMENT TO PUT YOUR MONEY IN A PROJECT THAT WILL PRODUCE LESS BENEFITS THAN YOUR COST. ALSO, IT ISN'T VERY WISE TO INVEST IN A PROJECT THAT LACKS LOCAL SUPPORT AND WILL CAUSE WIDESPREAD DESTRUCTION OF VALUABLE FARM LAND.

SENATOR ABDNOR'S BILL TALKS ABOUT PROVIDING MONEY TO STUDY ALTERNATIVE USES FOR THE OAHE PROJECT. I DON'T THINK IT IS RIGHT TO SPEND MILLIONS OF DOLLARS STUDYING SOILS AND FEASIBILITY, WHEN MILLIONS HAVE ALREADY BEEN SPENT STUDYING THESE AREAS. IN TESTIMONY BEFORE THE OAHE CONSERVANCY SUB-DISTRICT, PRESTON FUNKHOUSER, THE FORMER MANAGER OF THE OAHE PROJECT, STATED, "ALTERNATIVE FEDERAL MULTIPURPOSE PROJECTS SIMILAR IN SIZE, SCOPE, AND AVERAGE COST PER ACRE TO THE AUTHORIZED 190,000 ACRE OAHE UNIT ARE ESSENTIALLY NONEXISTENT IN THE 15½ COUNTY AREA (SUB-DISTRICT). WHEN CONSIDERING FACTORS SUCH AS SIZE, COMPACTNESS OF SERVICE AREA, SUITABILITY OF SOILS, SUBSURFACE DRAINABILITY, PUMP LIFTS, ADAPTABILITY OF TOPOGRAPHICAL FEATURES, AND SOURCE OF SUITABLE WATER SUPPLY, IT BECOMES IMPOSSIBLE TO LOCATE A FEASIBLE ALTERNATIVE OF SIMILAR MAGNITUDE WITHIN THE GEOGRAPHICAL BOUNDARY OF THE OAHE CONSERVANCY SUB-DISTRICT." IF THE BUREAU COULD HAVE LOCATED THE OAHE PROJECT CLOSER TO THE RIVER, LIKE THE PROPOSED CENDAK PROJECT, DON'T YOU THINK THEY WOULD HAVE?

I ALSO DON'T THINK IT'S RIGHT TO PROVIDE MONEY FOR STUDIES THAT WILL HAVE MISLEADING AND UNTRUTHFUL CONCLUSIONS LIKE THE BENEFIT/COST STUDIES. CONGRESS IS UNKNOWINGLY BEING MISLED BY THE RESULTS OF SUCH STUDIES AND AS A RESULT, MONEY IS APPROPRIATED FOR A PROJECT THAT SHOULDN'T RECEIVE ONE DIME BECAUSE OF IT'S INFEASIBLE NATURE.

I WANT TO THANK YOU SENATOR MURKOWSKI, FOR COMING OUT TO SOUTH DAKOTA AND LISTENING TO THIS INFORMATION. I HOPE YOU WILL CONCLUDE THAT THE OAHE PROJECT AND ANY OTHER CANAL DELIVERY SYSTEM IN THIS AREA IS INFEASIBLE. I ALSO HOPE THAT YOUR COMMITTEE WILL DEAUTHORIZE THE OAHE PROJECT AND NOT PROVIDE FUNDING FOR FURTHER STUDIES OF A DIVERSION. THANK-YOU.

CROP AND LIVESTOCK REPORTING SERVICE BULLETIN--SOUTH DAKOTA AGRICULTURE 1973

County and District	CORN FOR GRAIN, IRRIGATED, SOUTH DAKOTA						ALFALFA HAY, IRRIGATED, SOUTH DAKOTA					
	1973			1974			1973			1974		
	Harvested	Yield	Production	Harvested	Yield	Production	Harvested	Yield	Production	Harvested	Yield	Production
	Acres	-----	-----	Acres	-----	-----	Acres	-----	-----	Acres	-----	-----
State	8,800	85.0	756,800	8,400	87.0	730,800	24,500	3.0	73,500	23,100	3.1	76,800
Butte	70	93.0	6,500	150	96.0	13,500	380	4.0	1,440	830	3.5	2,900
DeWitt	0	0	0	0	0	0	0	0	0	0	0	0
Harding	0	0	0	0	0	0	1,800	1.7	3,060	1,100	2.7	2,970
Lincoln	1,600	88.0	140,800	850	80.0	68,000	1,000	3.0	3,000	1,300	2.7	3,510
Minnehaha	0	0	0	0	0	0	240	2.8	672	0	0	0
North	10,500	86.4	906,800	9,400	86.4	812,300	27,900	2.9	81,330	26,900	3.2	87,040
Northwest	1,100	115.0	126,500	1,000	100.0	90,000	0	0	0	0	0	0
Pennington	200	0	0	0	0	0	330	4.5	1,485	150	5.7	2,000
Spink	0	0	0	0	0	0	0	0	0	0	0	0
Thompson	0	0	0	0	0	0	300	2.5	750	320	2.2	700
Union	800	92.0	73,600	700	80.0	56,000	250	3.6	900	250	5.8	1,250
Yankton	4,400	91.0	400,400	4,200	84.0	352,800	1,400	5.0	7,000	1,100	4.5	4,950
South	350	117.0	40,950	1,200	72.0	86,400	220	3.8	836	700	4.0	1,200
South Central	7,100	97.0	688,700	7,200	74.1	532,700	3,160	4.1	12,956	2,800	4.3	12,020
Southwest	350	84.0	29,400	500	100.0	50,000	0	0	0	100	5.3	1,590
Union	0	0	0	0	0	0	0	0	0	0	0	0
Yankton	0	0	0	0	0	0	0	0	0	150	3.0	1,200
Yankton	700	98.0	68,600	900	62.0	55,800	0	0	0	0	0	0
Yankton	0	0	0	0	0	0	0	0	0	0	0	0
Yankton	200	107.0	21,400	0	0	0	80	4.1	328	100	3.1	310
Yankton	1,400	97.0	135,800	1,900	76.2	144,800	730	3.6	2,628	900	4.0	3,620
Yankton	0	0	0	0	0	0	0	0	0	0	0	0
Yankton	0	0	0	0	0	0	930	2.4	2,232	800	2.6	2,080
Yankton	80	90.0	7,200	120	64.8	7,700	2,800	3.7	10,360	2,000	4.0	8,000
Yankton	700	83.0	58,100	980	77.0	75,460	3,100	2.8	8,680	2,800	2.5	7,000
Yankton	0	0	0	0	0	0	8,700	2.6	22,620	8,900	2.6	23,140
Yankton	0	0	0	0	0	0	0	0	0	0	0	0
West Central	1,200	85.8	102,960	1,700	81.0	137,700	16,630	2.9	48,250	15,700	2.8	43,820
Yankton	0	0	0	0	0	0	0	0	0	0	0	0
Yankton	2,200	97.0	213,400	3,500	85.0	297,500	450	4.0	1,800	1,000	4.1	4,100
Yankton	0	0	0	0	0	0	0	0	0	0	0	0
Yankton	0	0	0	0	0	0	0	0	0	0	0	0
Yankton	0	0	0	0	0	0	440	3.4	1,500	500	3.4	1,700
Yankton	2,500	108.0	240,000	2,800	95.0	266,000	500	3.0	1,500	600	3.5	2,100
Yankton	0	0	0	0	0	0	0	0	0	0	0	0
Yankton	0	0	0	0	0	0	0	0	0	0	0	0
Yankton	1,900	88.0	167,200	1,200	53.0	63,600	500	2.6	1,300	450	2.7	1,220
Central	8,950	85.7	767,200	8,000	75.8	606,400	2,330	3.2	7,456	2,900	3.5	10,220
Brookings	700	80.3	56,200	900	60.0	54,000	180	3.4	612	250	3.5	880
Dakota	500	87.0	43,500	700	87.0	60,900	500	5.4	2,700	900	3.7	3,330
Hasson	0	0	0	0	0	0	0	0	0	0	0	0
Kingsbury	0	0	0	0	0	0	0	0	0	0	0	0
Lake	400	70.0	28,000	0	0	0	0	0	0	0	0	0
McCook	250	90.0	22,500	0	0	0	100	3.5	350	0	0	0
Moore	200	86.0	17,200	0	0	0	0	0	0	0	0	0
Nebraska	500	71.0	35,500	300	70.0	21,000	120	4.1	492	0	0	0
Nebraska	1,500	100.0	150,000	1,900	57.0	108,300	120	4.0	480	150	4.0	600
Nebraska	0	0	0	200	65.0	13,000	0	0	0	300	4.0	1,200
East Central	4,400	88.3	388,520	5,000	64.1	320,500	1,480	4.5	6,590	2,000	4.7	9,380
Beaumont	500	76.0	38,000	700	50.0	35,000	500	3.8	1,900	0	0	0
Center	500	133.0	66,500	500	74.0	37,000	3,000	3.8	11,400	3,000	3.0	9,000
Fall River	3,800	88.0	334,400	4,000	87.0	348,000	5,800	3.0	17,400	5,700	3.0	17,100
Nebraska	0	0	0	0	0	0	0	0	0	0	0	0
Nebraska	0	0	0	0	0	0	0	0	0	0	0	0
Nebraska	5,000	90.8	454,000	5,300	88.6	467,000	9,700	3.8	36,860	9,700	3.5	34,380
Gregory	0	0	0	300	108.0	32,400	200	4.3	860	200	3.5	700
James	1,400	79.0	110,600	1,600	81.0	129,600	300	3.9	1,170	400	3.3	1,320
Lyman	100	100.0	10,000	0	0	0	900	3.6	3,240	600	2.0	1,800
Mellette	800	115.0	92,000	900	84.0	75,600	400	7.2	2,880	700	3.5	2,450
Timber Lake	600	100.0	60,000	800	69.0	55,200	500	3.5	1,750	300	2.0	600
South Central	3,700	96.6	357,520	4,100	83.9	341,100	3,000	4.1	12,300	3,300	3.7	13,800
San Ramon	200	100.0	20,000	400	70.0	28,000	100	7.4	740	0	0	0
Charles M. Rice	4,000	125.0	500,000	4,100	132.0	541,200	0	0	0	0	0	0
Clay	1,800	114.0	205,200	1,600	103.0	164,800	0	0	0	0	0	0
Bagley	450	99.0	44,550	400	109.0	43,600	0	0	0	0	0	0
Nebraska	230	70.0	16,100	0	0	0	300	4.3	1,290	0	0	0
Lincoln	470	134.0	63,080	0	0	0	0	0	0	0	0	0
Turner	3,300	114.0	376,200	3,800	75.0	285,000	200	4.0	800	300	4.4	1,320
Union	3,900	107.0	417,300	5,500	86.0	478,500	0	0	0	0	0	0
Yankton	800	112.0	89,600	1,100	117.0	128,700	200	4.2	840	200	4.0	800
Yankton	15,500	114.7	1,776,750	17,400	88.3	1,536,420	1,070	4.5	4,815	1,100	4.9	5,410
Yankton	55,800	98.4	5,490,000	59,800	84.0	5,023,200	66,200	3.1	204,000	65,300	3.1	205,000

Not published separately, to avoid disclosure of individual operations. Included in district totals.

THE SOUTH DAKOTA AND UNITED STATES DEPARTMENTS OF AGRICULTURE

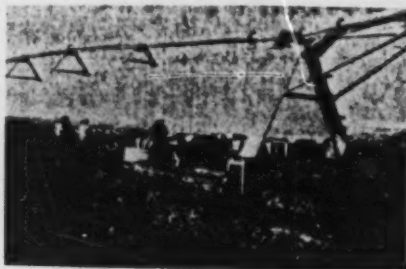
IRRIGATION

By John E. Lange

The total acreage irrigated in South Dakota in 1974 was estimated at 186,000 acres, up 5 percent from 1973. This was the highest irrigated acreage on record, as farmers continued to offset drought conditions with increased acreage under irrigation. However, the drought in 1974 caused some creeks and rivers to be too low to support irrigation systems; and, as a result, the State's full potential was not realized.

Alfalfa was the leading crop, with 65,300 acres under irrigation, slightly less than 1973. Corn for grain was second, showing a 7 percent increase over 1973, to 59,800 acres. Silage increased 54 percent to 20,000 acres to become the third largest irrigated crop. The acreage of irrigated wheat jumped from 1,800 acres in 1973 to 5,200 in 1974.

Yields per acre on irrigated land were generally well above yields for dryland farming. Irrigated corn harvested for grain averaged 84.0 bushels per acre, compared to 32.7 for non-irrigated corn. Alfalfa hay under irrigation averaged 3.1 tons per acre, while the rest of the crop averaged 1.3 tons.



The value of corn, grain sorghum, soybeans, wheat, oats, barley, potatoes, and hay grown under irrigation in 1974 was \$28.0 million, compared with \$22.0 million for these crops in 1973. Considerable added value can also be attributed to irrigated silage, forage, pasture and miscellaneous crops, for which no price information is available.

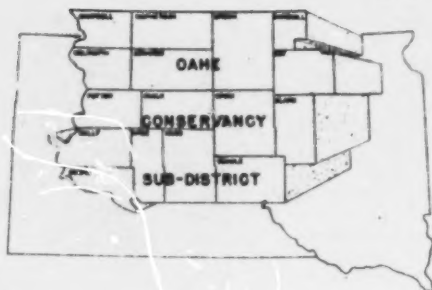
Acreage irrigated includes land which was irrigated at least once during the year, but does not include runoff or spreader systems over which the operator has no control. Water rights were obtained for more acres than were actually irrigated.

IRRIGATED CROP SUMMARY, SOUTH DAKOTA, 1973-74

Crop	1973			1974		
	Harvested	Yield per harvested acre	Production	Harvested	Yield per harvested acre	Production
	Acre	-----Bushels-----		Acre	-----Bushels-----	
Corn for grain	55,800	84.0	5,490,000	59,800	84.0	5,023,200
Sorghum for grain	800	75.0	60,000	700	60.0	42,000
Soybeans	2,400	32.0	76,800	3,100	27.0	83,700
Wheat, all	1,800	36.0	64,800	5,200	36.0	187,200
Oats	4,100	45.0	184,500	4,400	45.0	198,000
Barley	2,000	45.0	90,000	2,000	45.0	90,000
		-----Cwt.-----			-----Cwt.-----	
Potatoes	300	230.0	69,000	320	230.0	73,600
		-----Tons-----			-----Tons-----	
Silage, all	20,000	13.7	274,000	20,000	13.7	274,000
Alfalfa hay	64,200	3.1	199,020	65,300	3.1	202,430
All other hay	7,600	1.8	13,680	8,000	1.8	14,400
Other crops	4,500	--	--	3,900	--	--
Pasture	18,900	--	--	15,200	--	--
Total irrigated land	177,000	--	--	186,000	--	--

B-3

H. Gorton
Chairman
E. EBY - Mellette
Ice Chairman
R. Carpenter
Secretary
J. HIRST - Crossland
Treasurer
H
Manager
985
D 57461
DS/516-1122



DIRECTORS
DOUG BECHTOLD - Miller
R. E. RIFFLE - Pierre
MIKE MADDEW - Mound City
LEONARD HAEBSIG - Webster
GLENN OVERBY - Mellette
BILL PIPER - Carpenter
ARNOLD SCHURR - Roscoe
JOHN SIEK - Gering
SIEG SWANNHORN - Crossland
STEVE THORSON - Aberdeen
JEROME YACKLEY - Omaha

TO: OAH BOARD MEMBERS
FROM: CURT HOHN
RE: COST/BENEFIT HEARING (information)

Note: The following is a draft paper I have prepared from information we have available in the office that I am aware concerning the way in which cost/benefit is figured by the Bureau of Reclamation on the Oahe Project as well as comments from various papers developed by economists. It is not, nor is it meant to be, a conclusive document on cost/benefit. Rather it is an effort to gather information available together for your review prior to the hearing.

Information taken from a report by Dr. Calvin Kent, U.S.D. an economist and advisor to the State Legislature and the Governor on tax legislation...December 9, 1974. "The Economics of the Oahe Project"

Public law requires that before a government program is undertaken it must be demonstrated that the project is worth what it will cost. All federal projects, including irrigation projects are subject to this law and require a cost/benefit review. The basic idea behind cost/benefit analysis is simple: Does a dollar spent on this project produce at least one dollar worth of benefits...or how does it have a cost/benefit ratio of \$1.00 to \$1.00.

In determining cost/benefit an economist substitutes "revenue" the usual measure for benefit with the term "social benefit" which means anything that improves the well being of Man. The word "expenditure" usually considered the measure of cost is substituted with "opportunity cost"...which is what the dollar expended or spent could purchase if put to an alternative use by government other than the project.

BENEFITS:

The first step in determining cost/benefit is to estimate in dollars and cents the benefits the project will bring in. There are two types of benefits:

Direct: What the project was designed to produce (in this case, irrigation and some municipal water and recreation)

Page -3-
Memo to Directors
Cost/Benefit

The President's Water Resources Council has recommended a discount rate of $6 \frac{7}{8}$ ths on projects like Oahe. Currently the Bureau figures a rate of $3 \frac{1}{4}$ percent. Federal law contains a "grand father" clause which allows projects which are authorized but not constructed to be evaluated on this basis of the discount rate that was in effect when the project was first analyzed rather than at present rates. (Put simply...it would be like buying a car today using interest rates figured in 1968. It's a good deal if you can get it...but not very realistic). In 1971 the Bureau re-evaluated Oahe using the discount rate of $3 \frac{1}{4}$ percent. Benefits dropped to \$1.30 for every \$1.00 spent (or Cost/Benefit of 1 to 1.3).

The John Hopkins University did a study re-evaluating Oahe using the discount rate of $4 \frac{7}{8}$ ths percent set by the Water Resources Council for projects that year (1971) and the benefits for Oahe dropped to sixty nine cents benefit for every dollar spent (a cost/benefit of 1 to .69). Dr. Kent ended his paper by saying "...This author notes that controversy like the one over cost/benefit arises because cost/benefit studies are done on projects by advocacy groups (agencies that build them). Small wonder the results of the studies reflect the policy positions of the organization which asked that they be built."...in this case the Bureau.

THE BUREAU OF RECLAMATION:

In 1976, Congressional Appropriations Committees requested that fiscal year 1976 Budget justifications include and up-date benefit/cost ratios. It was based on the following:

- $3 \frac{1}{4}$ discount rate
- Costs at 1974 level
- Irrigation benefits based on the Ft. Thompson-Grass Rope Unit (a study completed in that area of the State by the Bureau) which price levels from 1960-1964 adjusted to 1969-1973 price levels
- Municipal and industrial, recreation, fish and wildlife, flood control, and area development benefits up-dated based on a ratio the Bureau determined based on 1971 plans.

The result was...Cost/Benefit ratio \$1.00 cost for every \$2.60 benefit on total benefits...and \$1.00 cost to every \$1.50 benefits based just on direct irrigation benefits.

On the following page #1 shows the total annual project costs used to figure the cost/benefit as increased twenty-eight per cent from 1970 prices to 1974 prices.

#2 shows direct benefits from irrigation 1970 to 1974 increasing fifty-one percent and #3 shows total benefits increasing sixty-seven percent. Item #4 shows how the cost/benefit is figured for 1970.

B-6

Page -4-
Memo to Directors
Cost/Benefit

Year 1970

DIRECT: $\$13,368,700 \div \$10,448,200 = 1.3$ cost/benefitTOTAL: $\$21,277,700 \div \$10,448,200 = 2.0$ cost/benefit

Year 1974

DIRECT: $\$20,158,500 \div \$13,363,200 = 1.5$ cost/benefitTOTAL: $\$35,362,800 \div \$13,363,200 = 2.6$ cost/benefit

In a letter dated August 14, 1975, to Dr. Russell Berry, the regional supervisor of Power for the Bureau, James Davis explained the way in which they justified figures used to obtain cost benefit ratios. Parity was determined this way:

	Average Prices Paid	Averages Prices Received	Parity
1960 - 64	307	240	= 78%
1969 - 73	422	320	= 76%

(Using 1910-14 prices as equaling 100% parity)

Previously the project had been figured at ninety-five percent parity by the Bureau which was unrealistic (House Document 163, page 144). The new parity is closer to reality of what farmers prices paid and receive really is. It appears to compensate for this (considering cost/benefit ratio) the Bureau estimated yields higher than they had in the past.

	<u>Yields with Oahe</u>			<u>Yield without Project</u>		
grain (bu.)	old 82 bu.	new 152 bu.	increase 85%	old 28 bu.	new 42 bu.	increase 50%
Silage (ton)	15.4	22.6	47%	6.0	8.0	33%

	<u>Effects of Irrigation</u>		<u>Increase over Dry Land</u>
grain (bu.)	old 54 bu.	new 110 bu.	103 percent
silage (ton)	9.4	14.6	55 percent

ort, they give irrigated land greater credit and increase than they dry land in this same period.

B-8

-6-
to Directors
Benefit

follow through on the Bureau's estimate of production, we checked with the Dakota Crop and Livestock Reporting Service for yields of irrigated land in the years 1973 and 1974. The Bureau's estimate and the actual yields compared below.

	Bureau's New Estimate	Brown Co.		Spink Co.		State Average	
		1973	1974	1973	1974	1973	1974
- grain							
buels/acre	152 bu.	115	90	91	64	98	84
alfa Hay							
- acre	6.9			5.0	4.5	3.1	3.1
bu/acre	119					65	49
ey/bu acre	89					45	34

HOPKINS UNIVERSITY STUDY

1974, a study by three economists at John Hopkins University in Maryland conducted an economic re-evaluation of the Oahe Unit and testified in the case United Family Farmers vs Department of Interior. Of the three economists, one man, Robert K. Davis is presently employed as economist with U.S. Department of Interior. The following are their findings. "They state that the Bureau had altered cost/benefit analysis to improve the appearance of projects under their control." To do this they claim:

1. The Bureau improperly specified the cost of borrowing to the farmers at four percent interest. It should have been figured at no less than 7.5 percent. This would drop the cost/benefit from 1.28 to 1.13.
2. The Bureau estimates the cost of hired labor at \$1.00 per hour... which is very low, and considers the extra time the farmer and his family puts in at no value at all. Adjusting this element to a realistic estimate the John Hopkins economist show that the cost/benefit would drop still further to 1.03 to 1.00.
3. The Bureau incorrectly used 2.5 mills as the cost of lost power generation at the Oahe Dam and completely ignored the cost of lost generation capacity down stream. They adjusted the loss to 11.55 mills and eliminated the assigned cost of the project bringing the cost benefit to .94 cents to \$1.00.
4. They faulted the Bureau for using overstated market prices for benefits and understated costs in evaluating farm budgets... and...
5. Claimed the Bureau used low discount rates for long periods of analysis.

On points four and five the John Hopkins economists stated that the Bureau was using a much too high rate of parity (94%) and a much too low discount rate. "These estimates indicate that the project should not have been justified when the Bureau reanalyzed it in 1971", they said.

-7-
to Directors
Benefit

ing the best estimates available today (March, 1974) on long run
es the project still does not appear to achieve a cost/benefit ratio
ter than one to one."

economists went on to say that through discounting the cost of land
for construction of the project was understated and the benefit
and in the project area (190,000 acres) was over stated. The Bur-
estimated \$78.72 additional net revenue per acre to irrigator farmers
use of the project. They also were critical of the Bureau's
mption that the project would serve as a source of jobs for unem-
ed indians in South Dakota.

study showed that additional demands on existing power generation
ility combined with the increase in power use the project it's self
use (for pumps and farm systems) the Bureau under estimated the
t that the project would have on overall power generation. The
u claimed the 444,000 acre feet of water used by the project and
to power generation on the Missouri River would be replaced at
ro rate.....the Johns Hopkins economists felt that the power would
to be replaced by coal generated power at a higher rate. They also
that the Bureau should have deducted the impact of government price
rts in determining prices for certain crops.

Discount Rate

Discount Rate has ranged from 2 7/8 in 1960 to 6 7/8 suggested in
by the President's Water Resource Council. In the early 1960's
ower discount rate was accepted as necessary to provide needed
l projects for future generations. In 1968 policy and economic
ure changed the rate increasing it and it has increased since.

7/8 rate approved by the President's council in 1973 the stand-
as been eliminated by a provision in the Omnibus Rivers and Har-
Bill which contains a grand father clause which exempts projects
by authorized (like Oahe). "The Bureau of Reclamation is protect-
ne Oahe Unit from an unacceptable Cost/Benefit ratio" they said
ilizing the grand father clause"...and avoiding the higher more
stic rate.

ureau uses the 100 year time period to evaluated the project. These
ists questioned this aspect saying that considering the constant
logical developments of this country it is questionable whether
the project will be operational 100 years after it's completion.

omputed the discount rate for the Oahe Project using the low
nt rate that the Bureau used in their calculations and then
orrections in the base information to show what would happen
cost benefit ratio if their estimates were corrected.

Benefit-Cost

's estimate of direct benefits without change 1.28 to 1
ed farm capitol estimate from 4% to 7% 1.13 to 1
ing labor cost estimates up to \$1.00 per hr 1.03 to 1
ing power estimates 94 to 1

Senator MURKOWSKI. Thank you very much, Mr. Olson, for your excellent testimony, and we appreciate it very much.

I believe that concludes the panel. We are going to take a short break to accommodate our court reporter, Fran Kunz, and I would like to recognize her. She has done an outstanding job. The rest of us sit here and act somewhat knowledgeable. She is the one that's really putting out the work. She is making this transcript possible.

[Whereupon, a short recess was taken.]

Senator MURKOWSKI. We will call the hearing to order again. If you are tired of sitting, you are certainly welcome to stand up.

The first witness will be Mr. Albright, Blunt, S. Dak.; Mr. Royal Runge of Blunt; Mr. Earl Briggs of Pierre; Ms. Darla Rogers of Onida, S. Dak.

Please, proceed, Mr. Albright.

STATEMENT OF TED ALBRIGHT, BLUNT, S. DAK.

Mr. ALBRIGHT. Thank you, Chairman Murkowski for coming on a hot day and listening to a long, long story.

Senator MURKOWSKI. Well, it has been a hot day, and it is a long story.

Mr. ALBRIGHT. My name is Ted Albright. I am a rancher, and I live southeast of Blunt, S. Dak. directly in the path of the main delivery canal of the Oahe project.

I know we are short for time, but I am here today not to ask you for study funds, grants or loans. I want nothing but to be left alone, if possible.

Senator MURKOWSKI. That's hard to do these days.

Mr. ALBRIGHT. It is hard to do.

I want to tell you what Oahe or Cendak means to me. This canal cuts a path through my ranch $1\frac{1}{2}$ miles long, and it takes 80 acres; it takes my heart right out, because I cannot have an operable cattle ranch with this project because access across the ditch is 6 or 7 miles away either direction.

I have to—this fall, if the Bureau had their way and the project was built, I would have to drive 9,000 miles to move my haystack home, which is just on the other side of that canal.

Senator MURKOWSKI. You would have to drive how far?

Mr. ALBRIGHT. 9,000 miles pulling a stack mover.

But having found out about all these problems in 34 years of fighting this project—and that's how long I have been at it—and I am getting tired—the biggest problem arose on the very subject that we are talking about here today—water.

I found out after much reesarch that we are going to lose—I know I am going to lose my big dam this spring to the canal itself, but I will also lose my domestic water when they build the Blunt Reservoir above Blunt. And Blunt is destined to the same problem, and all the ranches and farms below in that valley and 20 some miles to the river, their water supply is going to be shut off for 3 years during construction.

Now, the main thrust of my testimony today is on the Blunt Reservoir and the effect on that valley and Blunt. I am connected to the same water aquifer Blunt is. Now, I asked the Bureau when we were in the

negotiating stage to write into the contract some assurance that something would be done about losing the water.

They said the only resource you have is through the courts. Well, this is completely unacceptable. Now, Blunt, we went searching in the city of Blunt for probably 4 years before we could extract the truth from the Bureau of Reclamation on the problems of the Blunt Reservoir. This reservoir sets on approximately 60 feet of water gravel, and they are going to stack 80 feet of water on top of that. Now, after no water for 3 years, the problem with seepage, they do not know what really is going to happen.

In their own admission and in their testimony, you will be able to ascertain that. I won't go through all of the morbid details of how we went about this, the dates and all the information is in the testimony.

But the Blunt Dam reduced the ground flow in Medicine Creek Valley and will affect the water supply of the city of Blunt. The design of the dam could not be completed until there was further geological data and tests on materials of the dam foundation. And there would be seepage from the impoundment.

But the effect of the water running downstream is unknown nor does the Bureau have it in the record.

When asked about the report and the difficulty the mayor had in acquiring the information, the Bureau replied:

It is an internal report which normally is not released to the public until someone makes a request. There will be no leakage through the dam, however, seepage might occur through natural terrain under the dam site. The seepage which has been identified is inherent to all dams. You don't just build a dam without some natural seepage.

This is on the last page—third page of my testimony.

Why did the Bureau lead the people of Blunt to believe that their water supply would be affected only 3 years during construction of the dam when they knew that the effect could be more longlasting?

Why did the Bureau lead the Blunt officials to believe that corrective measures could be implemented immediately if any problems on groundwater levels arose after construction when they knew there were no plans to correct these adverse effects on the groundwater problems?

Why did the Bureau tell the mayor "Our geological data and dam design indicate there should be little or no effect on the city and residential wells of the area on completion of the dam and reservoir" when they knew that further examination of the geological materials was required to complete the design of the dam and when they had concluded that the effects of seepage on waterlogging downstream of the dam were unknown?

Now, we are here today to discuss the authorization of further studies on the Cendak project, which includes the development of Blunt Reservoir. This is an absolute waste.

Since the Bureau has been unable to prepare after 30 years sound engineering design for Blunt Dam and unable to determine the effects of seepage on groundwater and the land in the area, why should we expect that they will ever be able to do so?

We could spend another 30 years arguing about the Blunt Reservoir, and South Dakota would go without water development. Most

emphatically, the Bureau should never continue the study because they won't even tell the facts even when they know the information.

I think plans to include the Blunt Reservoir should be abandoned from this day forward. Modern ideas of transporting water, like pipelines, should be objectively investigated.

And you will find that this is a very local story I am telling. I could go on and talk for an hour about the problems that I had with this thing, but I want to emphasize it does make my ranch completely inoperable to benefit other people in the same business. How can condemnation and mitigation and all the rest the big government seems to do to minorities because of some wild dream that someone has.

I expect to be left alone and live like everyone else. And that about concludes my testimony, and I hope I have kept it brief.

[The prepared statement of Mr. Albright follows:]

STATEMENT BY TED ALBRIGHT, RURAL ROUTE, BLUNT SOUTH DAKOTA 57522
TO U.S. SENATE SUBCOMMITTEE ON WATER & POWER
HEARING SEPTEMBER 12, 1981, PIERRE, SOUTH DAKOTA

"BLUNT DAM & RESERVOIR"

The plans for Blunt Dam and Reservoir is to construct a dam across Medicine Knoll Creek and create a very large lake in the valley about 8 miles northeast of the city of Blunt. The city and several farms and ranches are situated within and adjacent to the valley. The floor of Medicine Creek Valley, including the site of the proposed dam and reservoir is underlain with forty to sixty feet of water bearing sand and gravel (attachment 1). The shallow aquifer beneath the valley floor supplies Blunt and many farms and ranches in the area. Very large gravel mines within the reservoir site show evidence that the land of the area is very permeable to water.

There has been a long-time concern of local people of the impacts of the dam and reservoir on the ground-water of the area, and concern about the safety of the dam and seepage from the reservoir.

In 1974 the City of Blunt raised their concern to the Bureau regarding the affect of the project on the stability of the water table during and after construction (attachment 2). The Bureau told the City:

"Information available at this time indicate sufficient recharge of the aquifer under the City of Blunt will exist during and after construction of Blunt Dam so there will be little or no effect on the City's well."

The Bureau also stated that observation wells are planned between the dam site and Blunt to monitor the water table before, during, and after construction (attachment 3).

With the understanding that the Bureau had prepared an environmental impact study of the Oahe project, the City of Blunt on March 10, 1976, formally requested information regarding the environmental impacts of the Blunt Reservoir on the local area (attachment 4). March 23, The Bureau responded that no specific study of the impacts concerning the City of Blunt had been done, but acknowledged that they could understand the concern regarding the affects of the project on the ground-water of the area. (attachment 5).

December 13, 1976, the Bureau notified the City of Blunt that observation wells had been installed downstream from the dam site. The Bureau stated:

"The purpose of the wells is to monitor and record on a monthly basis ground-water levels before, during, and after construction of the dam and storage of water in the reservoir... Should there be unforeseen effects, corrective measures can be implemented immediately. Our geological data and dam design indicate there should be little or no effect on the city and residential wells of the area on completion of the dam and reservoir." (attachment 6)

STATEMENT BY TED ALBRIGHT
September 12, 1981
Page 2.

March 7, 1977, The Bureau met with Blunt City officials and explained how the water supply of the city could be affected during the 3 year construction period of the project, and outlined several alternatives for the city's water supply during construction. When asked about a rise in ground-water levels after completion of the dam, the Bureau said drainage wells could be installed or they could extend the dike from a Fish Wildlife area to be developed below the dam site (attachment 7).

March 11, 1978, the Mayor of Blunt requested that an environmental study of the impacts of the dam and reservoir on the community be prepared.

March 24, 1978, the bureau responded that they did not have the funds for a study (attachment 8).

May 24, 1978, the Mayor submitted a freedom of information act request to the Bureau's Engineering & Research Center, Denver, requesting reports, memos, and any information the Bureau had regarding studies of the affects of the dam and reservoir on water levels and seepage in the Medicine Creek Valley (attachment 9).

June 8, 1978, the Bureau responded that it would be very expensive to copy all the material, and quoted their charges for clerical search of the files and copying (attachment 10). As an alternative the Bureau advised the Mayor that representatives of the City come to Denver to look at the records.

July 5, 1978, the Mayor of Blunt appealed to Senator Abourezk for assistance in getting the information from the Bureau.

October 16, 1978, the Bureau finally replied to Senator Abourezk's request, stating that a dam at the Blunt site had been under investigation as part of the Oahe Project since the 1940's, but as of August 1977, specific plans for construction and operation of the dam and reservoir and for handling any potential change in the ground-water table in the Medicine Knoll Creek Valley were not started (attachment 11).

The information received by Senator Abourezk also revealed a Travel Report of an investigation The Bureau had conducted on October 12 & 13, 1976, dealing with the ground water problem and seepage issue concerning the development of Blunt dam and reservoir. (attachment 12).

The Travel Report stated:

"A positive cutoff beneath Blunt Dam will reduce the quantity of ground-water flow in the alluvium in the Medicine Knoll Creek Valley. The town of Blunt obtains water from shallow wells in this aquifer, and the town's water supply could be affected".

STATEMENT BY TED ALBRIGHT
September 12, 1981
Page 3.

The report went on to say:

"Before designs for Blunt Dam can be completed, undisturbed samples of surficial deposits and formation materials in the dam foundation should be obtained and submitted to the EAR Center for examination and testing."

The report also indicated that the dam design must allow for the presence of the Fish & Wildlife area to be formed by a small dike approximately two miles downstream from the dam. The Travel Report further stated:

"The pervious nature of the Valley Floor materials beneath the fish and wildlife area would allow for significant recharge of the aquifer in the valley alluvium. Whether this recharge would be sufficient to offset the ground-water intercepted by a positive cutoff beneath Blunt Dam and would actually lead to downstream waterlogging is not known. It is suggested that a positive cutoff beneath the dike and its abutments be a part of the construction of the dike. If waterlogging then became a problem, the cutoff could be extended using one of several techniques which provide a water barrier by the use of bentonite slurry."

I wish to point out very clearly that the information contained in the Travel Report was accumulated in the fall of 1976, and that the Bureau had knowledge of this information at the time of their letter to the Mayor of Blunt on Dec. 13, 1976, at the time of their meeting with Blunt City officials on March 7, 1977, and at the time of the Mayor's request for an environmental study on March 11, 1977.

The salient points of the travel report indicated that in 1976 the Bureau knew--

1. Blunt Dam would reduce the ground-water flow in Medicine Creek Valley, and affect the water supply for the City of Blunt.
2. The design of the dam could not be completed until there was further geological data and testing of materials of the dam foundation.
3. That there would be seepage from the impoundment. But, that the affect on waterlogging downstream was unknown, nor did the Bureau have a plan to correct it.

When asked about the report and the difficulty the Mayor had in acquiring the information, the Bureau replied: (attachment 13)

"... it is an internal report which normally is not released to the public unless someone makes the request."

"There will be no leakage through the dam, however, seepage might occur through natural terrain under the dam site. The seepage which has been identified is inherent to all dams. You don't just build a dam without some natural seepage."

STATE OF MISSISSIPPI
 September 12, 1981
 Page 4.

Why did the Bureau lead the people of Blunt to believe that their water supply would be affected only 3 years during construction of the project, when they knew that the affect could be more long lasting?

Why did the Bureau lead the Blunt officials to believe that corrective measures could be implemented immediately if any problems on ground-water levels arose after construction, when they knew there were no plans to correct adverse affects on the ground water problems?

Why did the Bureau tell the Mayor, "our geological data and dam design indicate there should be little or no effect on the city and residential wells of the area on completion of the dam and reservoir", when they knew that further examination of geological materials was required to complete the design of the dam, and when they had concluded that the affects of seepage on waterlogging downstream of the dam were unknown?

Now we are here today to discuss the authorization of further studies on the CSNDAM project which includes the development of Blunt Reservoir. This is an absolute waste. Since the Bureau has been unable to prepare after 30 years sound engineering design for Blunt dam and unable to determine the affects of seepage on ground-water and land in the area, why should we expect that they will ever be able to do so? We could spend another 30 years arguing about Blunt Reservoir and SD would go with no water development. Most emphatically the Bureau should never continue the study because they wont even tell the facts even when they know the information.

I think any plans to include the Blunt Reservoir should be abandoned from this day forward. Modern ideas of transporting water like pipelines should be objectively investigated.

Well-driller makes tests

Blunt reservoir dam may snag Oahe

The Bureau of Reclamation may run into a serious and expensive snag in the construction phase of the Oahe Irrigation Project involving the proposed Blunt reservoir dam. Plans call for an earthfill structure across a branch of the Medicine Knoll Creek in Sully County.

"Not possible," says Virgil Worm, a well-driller from Lebanon, S.D., with 12 years experience. "An earthfill dam is unquestionably out."

WORM HAS drilled a number of test holes in the vicinity of the proposed Blunt reservoir, an eventual 21,000-acre storage body.

Three test wells were within a mile both above and below the proposed dam site. Worm found water-bearing, loose, sandy substrate to a depth of 40 feet above the dam and one drilling test below the site indicated at least 60 feet of water-bearing sand.

Additionally, he estimated the water-producing capabilities ranging as high as 3,000 gallons per minute.

IN ORDER TO construct a secure earthen dam, the sandy substrate would have to be replaced with an impervious-fill material, or one that is incapable of being penetrated. Prior to construction, the immediate ground water or existing aquifer would have to be dewatered, Worm said.

"To drain such a tremendous amount of water would be almost impossible," he noted. "The loose material would all have to be cored out and replaced. I'm not saying it couldn't be done, but the cost would be a lot higher."

Other alternatives would be to change the type of dam structure or move its location, Worm said.

THE ONLY TEST hole data for this area on file with the United States Geological Survey in Vermillion was from initial feasibility studies provided in the 1950's by the Bureau. Listed is one drill site at the southeast corner of the proposed dam structure and three additional test sites, one, two and five miles south.

These reports state there are glacial till deposits ranging from 24 to 35 feet in depth at the three sites near the planned dam location. Such conditions would be suitable for an earthen dam.

Projected costs, assuming these favorable conditions, would be substantially lower than if the 40-or 60 feet of water-bearing substrate exists. Allocations based on original cost estimate and favorable conditions show \$9.46 million allotted for the Blunt dam and reservoir. Revised 1971 overall cost estimates by the Bureau show a 64 per cent increase.

THOUGH APPARENT contradictions in drilling data are presently unresolved, any change in the Blunt reservoir structure or location could raise costs considerably.

Another unanswered question involves the effect a dam may have on existing water tables. Worm has drilled about eight test wells south of the proposed

dam site. Landowners expressed concern to the effect a storage and any ensuing drawdown have on their individual water rights. It's entirely possible the Blunt reservoir seals off subsurface drainage, ground water could be adversely affected.

No irrigation is scheduled for the Blunt reservoir area. Farmers will be forced off lands of productive pasture to produce storage basin with the water.

Maintaining the depot, Worm said, may cost farmers more than their groundwater serves.

Attachment 2**City Of Blunt**

Blunt, S. Dak. 57522

P. L. FUNKHOUSER
BUREAU OF RECLAMATION
MISSOURI OAHU PROJECT OFFICE
HURON, S. DAK.

MR. FUNKHOUSER:

THE TOWN BOARD AND CITIZENS IN THE CITY OF BLUNT, S. DAK. ARE CONCERNED ABOUT THE WATER TABLE UNDER OUR CITY AND HOW IT WILL BE EFFECTED BY THE OAHU IRRIGATION PROJECT PRINIPALLY THE CONSTRUCTION OF THE DAM FOR THE BLUNT RESERVOIR.

THE CITY WELL IS APPROXIMATELY 58 FEET DEEP AND THE RESIDENT WELLS ARE AROUND 40 FEET. WATER IS EASY TO OBTAIN IN BLUNT AND WE WOULD APPRECIATE BEING ADVISED AS TO THE STABILITY OF THE WATER TABLE DURING AND AFTER THIS CONSTRUCTION.

THANK YOU FOR YOUR PROMPT REPLY.

BEST REGARDS,

J. H. Hostler

J. H. HOSTLER
CITY OF BLUNT
BLUNT, S. DAK. 57522

ORIGINAL FILED IN 110d-280

For A. C.		
To		
MAY 22, 1974		
1-100	88	210
1-110		22
1-100		23
2-100		24
2-100		25
2-100		26
2-100		27
2-100		28
2-100		29
2-100		30
2-100		31

OPTIONAL FORM NO. 10
MAY 1962 EDITION
GSA FPMR (41 CFR) 101-11.6

UNITED STATES GOVERNMENT

Attachment #3

Memorandum

TO : 100
Through: 200
FROM : 210/231

DATE: July 19, 1974

SUBJECT: Water Table Under City of Blunt -- Oahe Unit
(Re: City's letter of May 22, 1974, copy attached)

Referenced letter was returned from 730 on July 18, 1974, with "No input".

Information available at this time indicate sufficient recharge of the aquifer under the City of Blunt will exist during and after the construction of Blunt Dam so there will be little or no effect on the the City's well.

If additional investigations and information should indicate adverse effects may result from our activities, appropriate remedial measures will be taken.

A network of observationwells are planned between the dam site and the City to monitor the water table before, during, and after the construction of Blunt Dam and impoundment of Blunt Reservoir. These observation wells will be installed at the earliest opportunity.

Ernest L. Smith
PW Hackett

DASH FILE

Cable Unit

MAY, PORTER, ADAM, GERDES & THOMPSON
436 SOUTH PIERRE STREET
PIERRE, SOUTH DAKOTA 57501

Attachment #4

GLENN W. MARTENS 1891-1983
EARL GILBERT 1885-1968
DONALD J. PORTER
THOMAS C. ADAM
DAVID A. GERDES
CHARLES W. THOMPSON

March 10, 1976

TELEPHONE
805 224-8804
P.O. BOX 180

CITY OF BLUNT

To	From	Date
10-0	P	3/11
110		
200	OFF	5/15
231	212	3/15
710	ARMY	3/22

Bureau of Reclamation
450 Dakota S.
Huron, South Dakota 57350

RE: CITY OF BLUNT
OUR FILE: 7052

Gentlemen:

On March 8, this office requested information from the Environmental Protection Agency in Pierre concerning a study or environmental impact statement dealing with the environmental impact of the Blunt Reservoir of the Oahe Irrigation Project on the City of Blunt.

We were advised today that such a study has been made and that your office has a copy of such study.

We are writing as attorneys for the City of Blunt in their upcoming water and sewer project to request that you send a copy of this study to our office. We would, of course, be happy to pay for any costs involved.

Your cooperation will be most appreciated.

Yours truly,

MAY, PORTER, ADAM, GERDES & THOMPSON

BY:

D. C. T. /jr.

DAG:djr

Cable Unit

BLUNT DAM

Attachment #5

MAR 23 1976

700

180.

Mr. David A. Gerdes, Attorney
 May, Porter, Adam, Gerdes & Thompson
 P.O. Box 160
 Pierre, South Dakota 57501

Dear Mr. Gerdes:

This is in response to your March 10, 1976, letter and Mr. Moran's subsequent March 17 telephone conversation with you concerning environmental impact information or a study concerning our proposed Blunt Reservoir with respect to the city of Blunt.

As Mr. Moran stated, general impacts of the proposed Blunt Dam and Reservoir on the local area are described in the Final Environmental Statement for the Oahe Unit, dated December 17, 1973. Our limited supply of this document prevents us from sending you a copy; however, it is available at the public library in Pierre.

No specific impacts concerning the city of Blunt were discussed in the above-referenced environmental statement, nor has the Bureau done a specific study concerning impacts from Blunt Dam and Reservoir on this municipality.

Concern by the city of Blunt regarding the effect, if any, that construction of Blunt Dam and Reservoir would have on ground water in the area is understandable.

The proposed Blunt Dam will be constructed to effectively eliminate the possibility of significant water leakage underneath the dam structure. The proposed design for the dam is to set the base in bedrock and install a relatively impervious foundation across the Medicine Knoll Creek valley. Consequently, a hazard resulting from a higher ground water table should not be a matter of concern; likewise, Blunt Reservoir will be capable of reducing the frequency of flooding resulting from surface water runoff that occurs on Medicine Knoll Creek above the damsite.

The Bureau of Reclamation has made extensive geologic explorations of the Medicine Knoll Creek area extending from Blunt Reservoir site downstream to where the Pierre Canal will cross the creek through an inverted siphon structure (Medicine Knoll Creek Siphon). On the basis

of this geologic information and our proposed designs for the Blunt Dam and Medicine Knoll Creek Siphon structures, there is no indication that these facilities will cause adverse surface or ground water conditions.

Observation water wells were installed by the Bureau in the valley area south of the proposed Blunt Dam site during the spring of 1973. Locations of these wells are shown on drawing No. 469-602-5141, titled "Observation Wells--Blunt Vicinity--Location Map," a copy of which is enclosed. The purpose of these observation wells is to monitor the natural ground water level before, during, and after the construction of the Gase Unit facilities (i.e., Pierre Canal, Blunt Dam and Reservoir) in this area of Medicine Knoll Creek valley. Geologic logs, taken when these wells were drilled, are on file in this office and copies may be obtained by request, if needed. These wells are being read once a month to determine the natural fluctuation pattern of the ground water. After the dam is constructed and reservoir filling begins, these wells will be monitored at closer time intervals. If any significant change in the ground water level is observed, measures will be taken to maintain the natural level. If the dam does lower the water table in the valley, ground water recharge may be accomplished by the release of reservoir waters into infiltration ponds or ground water recharge wells. Our data and dam design indicate that there should be little or no effect on the ground water in the Blunt area upon completion of the dam and reservoir.

Additional geologic information concerning the area surrounding the city of Blunt may be found in the two following references which would be available for examination from the U.S. Geological Survey:

(1) Pleistocene Geology of Eastern South Dakota, U.S. Geological Survey Professional Paper 282, by Richard Foster Flint, dated 1955. This report includes information about the Blunt area and has a geologic map showing Medicine Knoll Creek valley.

(2) Geology of the Pierre Area of South Dakota, U.S. Geological Survey Professional Paper 307, by Dwight E. Crandell, dated 1958. This report discusses the area to the west and southwest of Blunt and contains a geologic map of Medicine Knoll Creek valley a few miles south of the city.

Feel welcome to contact us if you have additional questions.

Sincerely yours,

P.L. Funkhouser Jr.

Preston L. Funkhouser, Jr.
Project Manager

Enclosure

bc: 100	210
110	231
115	700 (w/cy. incoming letter & Jwg. No. 469-602-5141)
200	730

ARMoran:es 3-22-76

510.-

DEC 13 1976

[illegible]

As a part of our geologic data collection for Platt Lake and Reservoir, a study of existing water resources in the water divide in 1975 demonstrated that the dam and the reservoir are in need of monitoring and record on a continuing basis. Groundwater levels, quality, and water construction of the water structure of water in the reservoir. During construction and filling of the reservoir, wells will be monitored more frequently. Should there be unforeseen effects, corrective measures can be implemented immediately. Our geologic data and dam design indicate there should be little or no effect on the city and residential wells of the area on completion of the dam and reservoir.

0.022 Unit

Sincerely yours,

Preston L. Funkhouser, Jr.
Project Manager

cc: Mr. Robert E. Raschke, Manager
Oahe Conservancy Sub-District
Huron, South Dakota 57350

George H. Carey

Mr. Jerome Yackley, Director
Oahu Conservancy Sub-District
Onida, South Dakota 57564

cc: Regional Director, Billings, Attention: 200

110
3110 Collier

CBA 232 (59)

Attachment #7

SUMMARY OF DISCUSSION WITH TOWN COUNCIL
CITY OF BLUNT, SOUTH DAKOTA
March 7, 1977

Blunt City Council met in session at 8 p.m. March 7, 1977, at a regular council meeting. The Bureau of Reclamation was invited to the meeting to discuss the impacts of the Oahe Unit in general and the Blunt Dam and Reservoir in particular on their city. Mayor Pool called the meeting to order at 8 p.m. at the city hall in the city of Blunt. In attendance were Mayor Pool, Councilmen Hauser, Hinckley, Steel, Howard, Marshall and Chafen; Director Jerome Yackley, Oahe Conservancy Sub-District; J. I. Felix, Ernest Smith and Lovell Parish, U.S.B.R.; and Terry Helm, consultant of Schumacher, Paul and Mohr Associates, Mitchell, South Dakota.

After local business, the Bureau representatives were asked to discuss the impacts of Blunt Dam and Reservoir on the town and the water supply in particular.

The Bureau stated that during construction (a period of about 3 years), the ground water flows in the North Fork of Medicine Knoll Creek would be interrupted and that flows from other drainages entering the creek probably would not be sufficient to prevent water levels from declining. The Bureau offered the following five alternatives to assure adequate domestic and municipal water supplies:

- I. Recharge the aquifer using the contractor's unwatering operations, and additional wells upstream of the dam if needed. This can be accomplished by use of infiltration ponds and/or injection wells.
- II. Construct reservoirs near the town to be supplied by wells upstream of the dam site. This would allow both domestic and irrigation use but would require water treatment.
- III. Fill the existing storage tank with water from wells and refill as necessary. This would probably eliminate irrigation use.
- IV. Haul water from Pierre in railroad tank cars.
- V. Utilize the existing city artesian well near the railroad.

The Bureau stated that Alternative I. appeared to be the best and Mayor Pool seemed to agree.

The question was asked about the effect on the water levels after completion of the Dam. The Bureau stated that with the Dam and Fish and Wildlife area, the water level could be maintained very near preconstruction levels. In answer to the question about a rise in the water levels, the Bureau stated that if this should happen that drainage wells could be installed to control any rise in water levels or the Fish and Wildlife Dike cutoff could be extended by numerous methods, or a combination of drainage wells and cutoff extension could be used.



IN REPLY REFER TO: 100

United States Department of the Interior

BUREAU OF RECLAMATION
 Upper Missouri Region
 Missouri-Oaks Projects Office
 P.O. Box 925
 Huron, South Dakota 57350

MAR 24 1978

Attachment #8

Honorable Wayne Pool
 Mayor of Blunt
 Blunt, South Dakota 57522

Dear Mayor Pool:

This is in response to your March 11, 1978, letter requesting an environmental impact study showing how the proposed Blunt Reservoir will affect the city of Blunt.

Actions by the Congress and the Department of the Interior over the past 12 to 14 months have suspended work on the authorized Oaks Unit except for a study of termination. For this reason, a study as you requested cannot be undertaken.

However, for your information enclosed is a summary of the discussion our staff had with the Blunt City Council on March 7, 1977, regarding potential impacts of Blunt Reservoir on the city.

Also enclosed are copies of a letter dated March 10, 1976, from your attorneys and our March 23, 1976, reply.

Sincerely yours,

Robert A. McCullough
 Acting Project Manager

Enclosures

cc: Manager, Oaks Conservancy Sub-District

Blunt .letter sent by Mayor of

Attachment # 9

Blunt, South Dakota 57522
May 24, 1978

Director of Design & Construction
U.S. Bureau of Reclamation
Engineering & Research Center
P.O. Box 25007, Building 67
Denver Federal Center
Denver, Colorado 80225

Dear Director:

Pursuant to the Freedom of Information Act we request the following information regarding the planning and development for Blunt Dam and Blunt Reservoir which are features of the Oahe Unit, South Dakota. Millions of federal dollars are planned to be expended for these features, and they will have an impact on the property and resources of the local citizens. This information is requested in the public interest and there should be no charge for it.

1. Please provide an inventory by title and author of each study, report, and memorandum prepared by each officer, agent, employee, and consultant of the Bureau of Reclamation, Engineering and Research Center which describes the planning of the Blunt Dam and Reservoir.
2. Please provide a copy of each report and memorandum prepared, and each item of correspondence received and sent by each officer, agent, employee, and consultant of the Bureau of Reclamation Engineering and Research Center containing information of the planning and design of Blunt Dam and Reservoir describing:
 - (a) the methods by which seepage water beneath and around the sides of the dam and reservoir shall be controlled.
 - (b) the methods by which seepage water beneath and around the sides of the dam and reservoir will be handled.
 - (c) the methods planned to prevent a raising and lowering of the ground water table of Medicine Creek Valley down stream of the proposed dam and reservoir.
3. Please provide a copy of each report, and memorandum prepared, and item of correspondence received and sent by each officer, agent, employee, and consultant of the Bureau of Reclamation Engineering and Research Center which describes the planning and design of all safety features of the Blunt Dam and Reservoir to assure the protection of residents and property in and around Medicine Creek Valley down stream from the proposed dam and reservoir.
4. Please identify by name and title each officer, agent, and employee and consultant of the Bureau of Reclamation who has contributed to the planning and design of the Blunt Dam and Reservoir.

Sincerely,

Attachment # 10



IN REPLY
REFER TO: 900
146.1

United States Department of the Interior

BUREAU OF RECLAMATION
ENGINEERING AND RESEARCH CENTER
P.O. BOX 25067
BUILDING 67, DENVER FEDERAL CENTER
DENVER, COLORADO 80225

JUN 6 1978

Mayor Wayne W. Pool
City of Blunt
Blunt SD 57522

Dear Mayor Pool:

In answer to your Freedom of Information Act request dated May 24, 1978, and received in this office May 31, 1978, we will be happy to cooperate in whatever way we can to satisfy your request for documents regarding Blunt Dam and Reservoir. Because your descriptions of documents are extremely broad, we are unable to specifically identify the records that would have to be copied which it would appear are of considerable volume.

We recommend that in order to save you considerable copying costs and search fees that someone from your office visit the Engineering and Research Center and examine the records which we have in our custody. The records to which we refer are engineering drawings, reports, correspondence, and engineering logs. We believe that someone representing your interests could recognize what information is of interest, conserving both your time and money.

Charges for copying of records are allowable under the Freedom of Information Act. They are as follows:

- \$0.25 for first sheet of copied material
- \$0.05 for each copy thereafter
- \$1.20 per quarter hour of clerical search
- \$2.20 per quarter hour of nonclerical search

The records are located at the Engineering and Research Center and are available to be examined on any working day between the hours of 7:30 a.m. and 4 p.m.

Should you have any questions concerning these records, please contact Mr. Kenneth Keuffman, Assistant Chief, Division of Planning Technical Services, Bureau of Reclamation, Code 761, PO Box 25007, Denver, CO 80225, telephone (303) 234-7015.

Sincerely yours,

W. W. Reedy

W. W. Reedy, Chief
Division of Planning
Technical Services



Attachment 11

United States Department of the Interior

BUREAU OF RECLAMATION
WASHINGTON, D.C. 20240IN REPLY
REFER TO: 900
146.1

OCT 16 1978

Honorable James Abourezk
Committee on Energy and
Natural Resources
United States Senate
Washington, DC 20510

Dear Senator Abourezk:

This is in response to your September 8 letter to Mr. Kenneth O. Kauffman at our Engineering and Research Center in Denver, Colorado, making further inquiry into Mayor Wayne Pool's Freedom of Information Act request for data concerning the Oahe Project's Blunt Dam and Reservoir.

I appreciate your assistance in getting this request limited to that information relating directly to the seepage and safety of Blunt Dam and Reservoir, which appear to be Mayor Pool's principal areas of interest concerning the project. Since there is a limited amount of material involving those aspects, I will be pleased to make it available to Mayor Pool at no charge.

A search of the files at the Engineering and Research Center has produced a number of report pages, drawings, and correspondence directly relating to the areas of inquiry. A list of these materials plus one copy of each item is enclosed. By copy of this letter, an identical set of the materials is being furnished to Mayor Pool.

I am also requesting the Regional Director in Billings, Montana, to review the files in the regional and project offices and to furnish you and Mayor Pool any additional records that relate directly to your request.

As you may or may not be aware, a dam at the Blunt site has been under investigation as part of the Oahe Unit since the 1940's. A conceptual feasibility design of Blunt Dam was completed in 1955 and the feasibility report of the Oahe Unit was completed in 1965. The definite plan report for the initial stage was completed in 1971 but did not update the feasibility design of Blunt Dam. At the time work was terminated on the unit in August of 1977, field data collection for the final plans and designs for the dam were substantially completed. However, specific plans for construction and

operation of the dam and reservoir and for handling any potential change in the ground-water table in the Medicine Knoll Creek Valley were not started. A study was also underway at that time in cooperation with the Fish and Wildlife Service to determine the possibilities for developing a fish and wildlife area immediately downstream from the dam. This planning was also terminated about the same time and specific plans were not developed. The enclosed field trip report outlines some of the design considerations that would have had to be addressed had the detailed designs been continued.

Since the planning and design for Blunt Dam and Reservoir has been underway over a long number of years, there is no special team that was given specific assignment for the work. Should Mayor Pool desire to make a local contact in regard to further details concerning Blunt Dam, he may contact the current Project Manager, Mr. Lloyd Porter. Mr. Porter can be reached by mail at P.O. Box 825, 450 Dakota Avenue South, Huron, South Dakota 57350 or by telephone at (605) 782-2242.

I trust that this information is in full response to your and Mayor Pool's needs. You may be assured that, should the planning and design of the dam and reservoir be resumed by the Bureau of Reclamation, Mayor Pool, as well as other community leaders, will be given ample opportunity to participate in development of the plans.

Sincerely yours,

(Sgd) R. Keith Higginson

R. Keith Higginson
Commissioner

Enclosure

cc: Honorable Wayne Pool
Mayor of Blunt
Blunt, SD 57222

B-705
ReclamationBUREAU OF RECLAMATION
Engineering and Research Center
Denver, Colorado

Attachment # 12

TRAVEL REPORT

Code : 220/270

Date: December 27, 1976

To : Director of Design and Construction

From : E. W. Gray/A. Glickman

Subject: Design Data Review - Pierre Canal, Reach 2B and Blunt Dam -
Oahe Unit - Pick-Sloan Missouri Basin Program

1. Travel period (dates): October 12-15, 1976.
2. Places or offices visited: Pierre and Huron, South Dakota and vicinity.
3. Purpose of trip (include reference to correspondence prompting travel):
Review of Design Data - Pierre Canal, Reach 2B and Blunt Dam - Oahe Unit -
Pick-Sloan Missouri Basin Program
(Faxogram From Regional Director Dated September 23, 1976)

4. Synopsis of trip:

On the afternoon of October 12, 1976 we went to the Pierre Construction Field Branch Office where we examined preliminary drawings, prepared in the Missouri-Oahe Projects Office, for Blunt Dam and Reservoir and for Reach 2B, Pierre Canal. On October 13, we visited the site of Blunt Dam and Reservoir, selected portions of Reach 2B, and Oahe Pumping Plant. Discussions concerning data for specifications design and estimates were held in the Missouri-Oahe Projects Office, Huron, on October 14 and 15. Attached to this report are lists of the Bureau of Reclamation personnel who participated in the field review and in the office discussions.

The U.S. Fish and Wildlife Service has recommended construction of a shallow reservoir for fish and wildlife habitat immediately downstream from Blunt Dam. The reservoir surface area would be approximately 1800 acres and the reservoir would inundate the downstream toe of the dam. The fish and wildlife area is a proposed feature not contained in the Definite Plan Report, and its possible effect on Blunt Dam and Reservoir and the downstream town of Blunt are discussed in the appendix to this report.

Travelers: E. W. Gray/A. Glickman

Date: December 27, 1976

It was pointed out to Project personnel that the Blunt Dam feasibility design drawing (469-D-9) does not show an outlet works and that in view of the large amount of inactive storage in Blunt reservoir, it appears prudent to consider a low level outlet works for evacuation of the reservoir. The inflow design flood data shown on drawing No. 469-D-9 indicates that the entire inflow design flood could be stored with one additional foot of surcharge (maximum water surface elevation approximately 1704.9'). Elimination of the spillway in favor of a low level outlet works capable of evacuating the reservoir was discussed, but it was pointed out that such a decision should be based on studies to be made at the Engineering and Research Center. If the spillway is eliminated, an outlet channel for draining the canal will still be required on the left abutment. Any increase in maximum water surface elevation should be coordinated with the Canals and Diversion Structures Section.

A county road is to be relocated on the crest of Blunt Dam. Project personnel were asked to determine if the county has a preference for type of guardrail.

A positive cutoff beneath Blunt Dam will reduce the quantity of ground-water flow in the alluvium in the Medicine Knoll Creek Valley. The town of Blunt obtains water from shallow wells in this aquifer, and the town's water supply could be affected. Ground-water levels are now being monitored by wells in the aquifer between the town of Blunt and the damsite.

The only nearby source of riprap for embankment slope protection appears to be glacial boulders piled along fence rows in the vicinity of the dam and reservoir. While there are not enough of these to provide riprap for dam embankment slope protection, there appears to be enough for riprap requirements around stilling basins and for short portions of the outlet channels immediately downstream from such structures. Borrow areas will be stratified, but a mixture of earth materials obtained by deep cuts should provide satisfactory embankment materials. For soil-cement slope protection, a source of sandy earth materials containing 10 percent to 30 percent nonplastic fines should be located.

Discussions between A. J. Aisenbrey and Linn Elfrink prior to the trip and discussions in Huron on October 14 and 15 indicated that the Pierre Canal terminal structure layout which will be submitted with the design data may be modified by the Denver Office.

Some of the possible changes in the canal terminal structure are:

1. Using radial gates instead of fixed wheel gates
2. Stoplogs upstream and downstream of the gates
3. Constructing a baffled apron, downstream of the terminal structure, which will be required during initial reservoir filling
4. Protection against ice in winter
5. Construction of a side channel spillway

Page 3

Travelers: E. W. Gray/A. Glickman

Date: December 27, 1976

Sam Shimamoto (Water Operations, Billings) indicated an interest in seeing the layout of the terminal structure before we prepared the final design. He also indicated that the canal may not be drained in the winter.

5. Conclusions: Before designs for Blunt Dam can be completed, undisturbed samples of surficial deposits and formation materials in the dam foundation should be obtained and submitted to the E&R Center for examination and testing. The dam design must allow for the presence of the fish and wildlife area downstream. Consideration should be given to construction of a low level outlet works at Blunt Dam. The design data for the canal and the dam were well prepared by the Projects Office.

6. Recommendations: None.

A. Glickman
E. W. Gray

Attachments

Copy to: Regional Director, Billings, Montana, Attention: 200
Project Manager, Huron, South Dakota

Blind to: 210
220
222
223
270
274
274 (Ferrese)
E. W. Gray/AGlickman:bdw

NOTED: DEC 29 1976

D. J. DUCZ
DEPUTY PROJECT MANAGER
DESIGN AND CONSTRUCTION

124

Appendix

The fish and wildlife area would be formed by a small dike located approximately 2 miles downstream from Blunt Dam. Water for the area would be supplied from the Pierre Canal by a short pipeline originating at the terminal structure. The shallow reservoir would be approximately 4 feet deep at the downstream toe of the dam. To maintain a dry area for operation, maintenance, and observation purposes, the downstream toe of the dam could be flattened to a 20:1 slope below elevation 1635. This would provide a relatively flat area 200 feet wide above the estimated maximum lake elevation of 1625.

The pervious nature of the valley floor materials beneath the fish and wildlife area would allow for significant recharge of the aquifer in the valley alluvium. Whether this recharge would be sufficient to offset the ground-water intercepted by a positive cutoff beneath Blunt Dam and would actually lead to downstream waterlogging is not known. It was suggested that a positive cutoff beneath the dike and its abutments be a part of the construction of the dike. If waterlogging then became a problem, the cutoff could be extended using one of several techniques which provide a water barrier by the use of bentonite slurry. The project geologist indicated that the depth to an impervious barrier at the proposed dike site was relatively shallow.

The U.S. Fish and Wildlife Service would prefer to not have a continuous discharge of water through the area. To conform to such a preference would require bypass channels up to approximately 2 1/2 miles long for small spillway flows. It was suggested that larger flows could be passed directly through the area by a direct spillway channel containing an earth plug capable of being removed by the larger flows.

Blunt dam won't leak: director

By ROGER KASA

Plainsman Managing Editor

The regional director of the Bureau of Reclamation says the Interior Department has no confidential report on the Blunt dam and reservoir and denied charges that the dam would leak.

Bill Lloyd, regional director at Billings, Mont., said the so-called confidential report which was referred to in a news story Wednesday "was never meant to be confidential."

The Trip Report, the findings of two design engineers who had visited the Blunt project, is an internal report which normally is not released to the public, Lloyd said, "unless someone makes the request."

The findings of the so-called confidential report released to the news media Tuesday by Kenneth Marsh, Agar, candidate for re-election to the Oahe Conservancy Subdistrict board, states that the Blunt dam and reservoir could leak or affect local water supplies.

Marsh also charged the Bureau of Reclamation of withholding this information "to further the present project."

"There will be no leakage through the dam," Lloyd said. "However, seepage might occur through natural terrain under the dam site."

He continued: "To keep this seepage within tolerable limits, a cutoff trench into the foundation material is planned. We now have a

number of observation wells which we are monitoring to establish water level patterns before final design on the dam is completed."

"We will continue monitoring these to see what effect the dam and reservoir might have and what measures might be required to minimize any possible effects on the downstream water table," he said.

Lloyd said the seepage which has been identified is inherent to all dams. "You don't just build a dam without some natural seepage," he said.

The request for information on the Blunt dam and reservoir came from Blunt Mayor Wayne Pool, who wanted data relating to seepage and safety factors. Sen. James Abourezk also asked for the same information.

In a letter dated Oct. 16, R. Keith Higginson, Bureau of Reclamation commissioner, wrote to Sen. Abourezk transmitting some of the material he had requested.

A copy of the commissioner's letter was forwarded to the regional office in Billings and to the projects office in Huron, asking that they also provide Abourezk with information on the dam and reservoir.

"We were in the process of doing that this week," Lloyd said, adding that some of the information has already been hand-carried to Abourezk's field office in Huron. The information also will be

delivered personally to Pool by Friday.

Lloyd said there was no attempt to cover up anything and states that any problems which are uncovered can be corrected.

"We are now in the process of identifying alternatives to the original design and the problems which have been identified are not unusual," he said.

"The corrective measures will be made in the final design of the structure before it is built," he added.

Senator MURKOWSKI. Thank you, Mr. Albright.

Mr. ALBRIGHT. I do thank you for coming to South Dakota on a very hot day.

Senator MURKOWSKI. I very much appreciate your testimony as do the other members of the committee. I would encourage you, sir, to continue your vigilance and not get too tired because obviously the country needs people who speak out for their beliefs and their commitments. And I certainly commend you for just asking to be left alone—something that we don't hear very often. [General applause.]

The next witness will be Royal Runge of Blunt. Mr. Runge?

STATEMENT OF ROYAL RUNGE, BLUNT, S. DAK.

Mr. RUNGE. Mr. Chairman and folks of the committee, I am not going to talk long here. It's getting late in the day. I have submitted my little story, I guess. It says exactly what I feel. It's short and to the point.

I hope the members of the panel take time to read it and include it in the record. I submitted some photos to go along with it, and I think the testimony and the photos kind of go hand in hand.

With that, I have submitted several of my neighbors' testimony, and I hope they become part of the record, too.

Senator MURKOWSKI. So noted. We have the testimony of your neighbors. It will be a part of the appendix.

Mr. RUNGE. OK. And with that, I will turn it over. Thank you.

[The prepared statement of Mr. Runge follows:]

Senator Frank W. Minchewski "Chairman"

Water and Power Subcommittee

Subject: field hearing on Lake irrigation project
for South Dakota

Exc. Senator Minchewski

I am a 59 year old working cattle ranch owner & operator of a 4360 acre Hughes County South Dakota ranch. Prior canal "wash 18" referred to as the 'deep cut' portion of the canal crosses and divides the ranch. The land was taken by court action on Dec. 1975 and court settlement was made in Nov 1979 a few days less than 4 years. I have lived on the ranch 59 years and have owned and operated it 40 years now after buying it before I was legal age.

I have lived around the Lake irrigation project for nearly 35 years now and my views have not changed. Lake should never have been authorized for construction. Most of the support for Lake was not from the people of the land and never has been Political factions and other interests is why Lake got as far as it did.

With the many years of clouded trouble and controversy Lake has had it should be crystal clear to an intelligent group of elected congressmen on Capital Hill there is something wrong. In my view it is a tragic waste of tax payer money with no possible way to get a just return for the dollar spent. A lack of local support from the people on the land where the project is supposed to benefit, and a lack of support by a majority of the elected members of the Water Conservancy District by the people, and a lot of other problems.

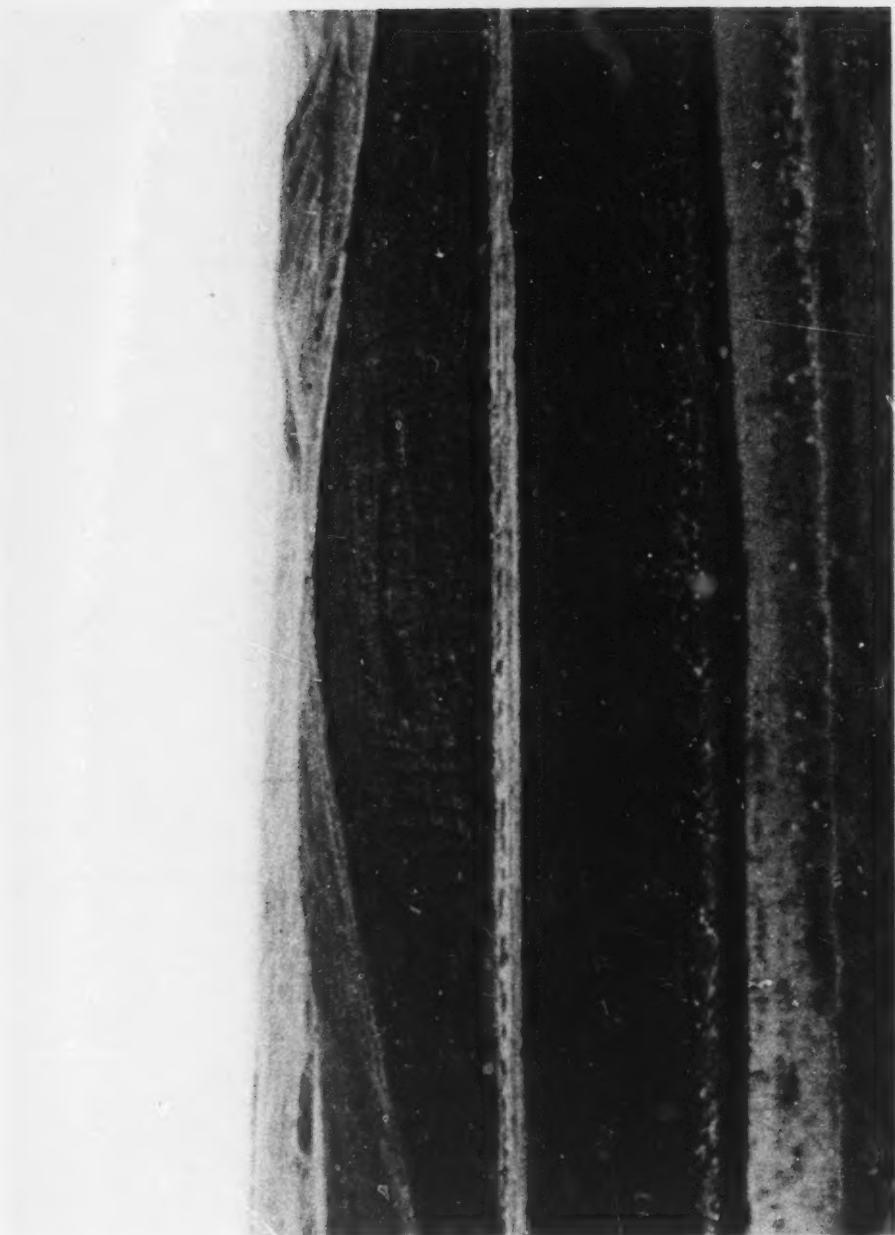
I think in view of these things the project should be deauthorized as soon as

possible and any further use of tax payer funds
for a project such as this or the use of the
partly constructed portion of Oake should be
eliminated.

Sincerely

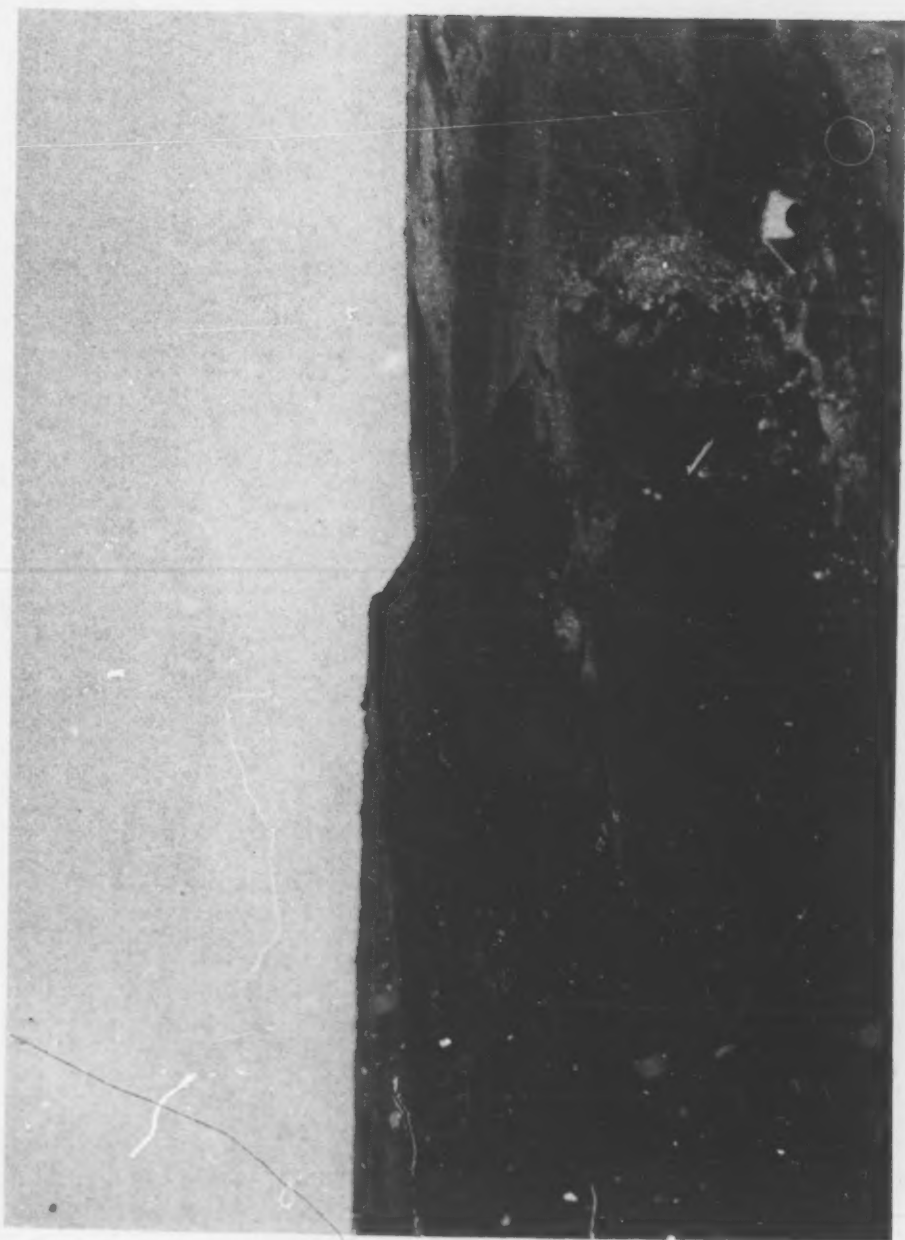
Royal Range
P.O. Box 200

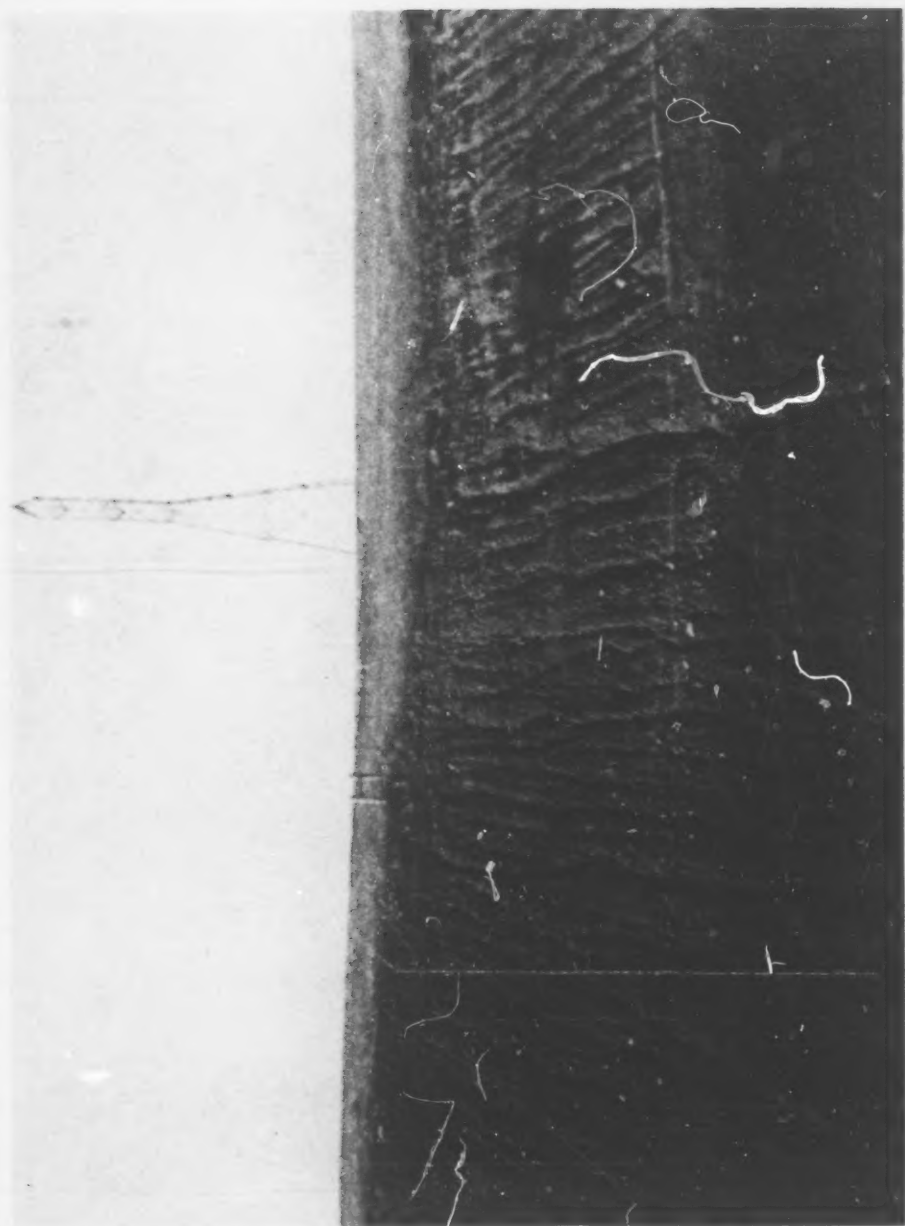
Blunt, Mo
57522











Senator MURKOWSKI. Thank you. We appreciate your presentation and the submission of your remarks, sir.

The next witness is Earl Briggs of Pierre. Mr. Briggs?

STATEMENT OF EARL BRIGGS, PIERRE, S. DAK.

Mr. BRIGGS. Thank you, Mr. Chairman. My name is Earl Briggs. I am a farmer and a landowner in Hughes County. My land is located on parcel 14 of the Bureau of Reclamation's Pierre Canal.

I am opposed to the Oahe project or any other project that intends to use the Pierre Canal, and I am opposed to Senator Abdnor's legislation which intends to use the canal for another water project.

At this time, I would like to give a short summary of my written testimony, which is in chronological detail.

At first, we were supportive of the Oahe project, as we assumed we would have access to the water. Then we started studying the feasibility of irrigation, which we concluded wasn't feasible at this time.

When we found the Bureau wouldn't give us any straight answers, it became clear to us that the Bureau was looking for easy access through our property. We started attending all the meetings we could on the project and found the recipients, Brown and Spink County irrigation districts, were very much opposed to the Oahe project. After seven lengthy hearings by the Oahe Conservancy Subdistrict Board, it was very clear why.

We had many problems with the Bureau, such as failure to expedite a speedy and fair price for damages incurred while surveying; failure to earnestly negotiate an accessible underpass on the creek on our property; neglecting to notify us of their landowners' meeting; notifying us that construction would soon begin on recently acquired property which they hadn't acquired yet; reprimanding my wife for writing to our Senator about our problems with the Bureau; trying to negotiate price after condemnation had been served; neglecting to inform us of details of route and structures before negotiating.

I would like to point out at this time that under the Uniform Relocation and Real Property Acquisition Act, the Federal Government and the Bureau of Reclamation are required to follow a set of procedures concerning the acquisition of property.

For sections 1A and 1B of the Pierre Canal, 11 landowners out of 33 were condemned by the Bureau for the Oahe project. With these 11 landowners, the Bureau repeatedly failed to live up to the guidelines that were outlined under this act.

This fact can be proved by examining the Oahe conservancy subdistrict hearing record on land acquisition (1977). There is repeated testimony, including mine, which prices that violations occurred in several major areas.

These violations included not allowing the landowners access to their appraisal records and reports; the landowners weren't allowed to accompany the appraiser; the Bureau didn't make every effort possible to negotiate and prevent condemnation, as evidenced in my testimony; and the Bureau did not set a fair price.

I have studied the report by the House Committee on Government Operations of their investigations in 1976 of the Bureau's land acquisition procedures for the Garrison diversion project in North Dakota. The information was very interesting, and I know in my case and that

of several of my neighbors along the Pierre Canal, that we experienced some of the same problems as the farmers in North Dakota.

The committee found several violations by the Bureau, of the purposes and intentions of the Federal Uniform Relocation and Real Property Acquisition Act. I have attached a copy of the section of the report that deals with this area.

I have some additional information on how the Bureau violated the Land Acquisition Act in relation to offering and setting a fair price for property taken for the project. The table in my testimony shows the amount the Bureau offered landowners on the Pierre Canal and the amount the court awarded the landowners after condemnation. In all cases, the court awarded much more than the Bureau's final offer.

Now that construction has ceased on the Oahe project, I am left with the proposed right-of-way for the Pierre Canal and a partially constructed culvert that was designed to go beneath the canal. I would like to point out that my cattle have never attempted to cross through this culvert to get to the other side of my property. I would also like to add that this culvert has a pool of water at one end because it is unable to drain through.

The termination report for the Oahe project shows that the total land acquired for the Pierre Canal totals 1,743.8 acres. Table 25 of that report shows that the land that is leased and currently used equals 1,262.1 acres. This shows that 486.7 acres have been altered in such a way that they can't be used.

This means that if Oahe were deauthorized, 1,262.1 acres can be put back into production. When you include the land that was taken for the Blunt Reservoir, a total of 18,820.1 acres can be put back into production quite easily.

I have attached several photographs to my written testimony which were taken at the end of August which proves that the Pierre Canal right-of-way is very productive and can easily be reverted back to its original state.

Senator MURKOWSKI. Mr. Briggs, would you summarize your remarks, please?

Mr. BRIGGS. I urge this committee to deauthorize the Oahe project so I and my neighbors can go forward with our farming operations. I also feel that the Pierre Canal should not be used for any other proposed projects.

In fact, since my land was acquired specifically for the authorized Oahe project, I question the legality of using the land that was condemned for another project other than what was originally authorized for by Congress.

I think that the committee should also know that any type of a project like the Oahe will be met with resistance from the landowners in our area. I have attached to my written testimony a copy of two petitions that were circulated in our area earlier this year.

These petitions voice the opposition to a canal from the people in our area. It is my understanding that several more of these petitions will be given to you today by others.

Thank you very much for your time and consideration. The committee's decision to deauthorize the Oahe will be a wise and appreciated decision.

Thank you.

[The prepared statement of Mr. Briggs follows:]

Senator Frank Murkowski
United States Senate Sub-Committee
on Water and Power

Testimony of Earl Briggs for the Oshe desauthorization hearing
September 12, 1981-Pierre, South Dakota.

Mr. Chairman, my name is Earl Briggs. I am a farmer and a landowner in Hughes County. My land is located on Parcel 14 of the Bureau of Reclamation's Pierre Canal. I am opposed to the Oshe Project or any other project that intends to use the Pierre Canal and I am opposed to Senator Abdnor's legislation which intends to use the canal for another water project.

When I first heard of the Oshe Project, we gave the Bureau of Reclamation permission to survey, test drill, and conduct geological surveys on our land. Since it was going to be an irrigation project, we really weren't opposed to it at that time because we felt that we would have access to the water. As time went by, several events took place which forced us to be opposed to the Oshe Project. I would like to point out that we had understood for some time that the canal would cross our property, but we did not know what it was going to be like or where it was to be situated.

In the spring of 1974, we gave the Bureau permission to survey, as we had in the past. One day, I was having a friendly conversation with an employee of the Bureau and I asked him what they were going to do about the wheat that they had trampled. Incidentally, wheat was bringing \$5.00 per bushel that year. I was told that I would be contacted by the Bureau and I would receive a settlement for the trampled wheat.

In July of 1974, I was contacted by the Bureau to negotiate a settlement. We asked them to also compensate us for the 10 years of driving over our property and the mower that broke down after I ran over a cable that they had left in the field. The Bureau then told us that \$50.00 was as much as they could offer us. I refused to settle for this small amount, so he promised to send someone else out to negotiate.

In May of 1975, a year later, the Bureau came to get permission to survey again. I refused them access to my land until damages were paid, as promised the year before.

The Bureau then sent a man out and we drove through our property and picked up stakes, wire, cable, tin cans, and garbage left by the previous crews. The man then asked how much we wanted for damages. We told him that we wanted \$200.00 for the wheat, mower repairs, driving over us, and picking up and shutting gates after them for the past ten years. After

Earl Briggs Testimony
 Page 2
 Cana deauthorization hearing

four visits from him, we finally settled on June of 1975 for \$182.50 so he would leave us alone.

In August of 1975, we had a lengthy discussion with geologist Ernest Smith. At that time, we discovered that we hadn't been invited by the Bureau to a landowners meeting on July 7, 1975 for Reach 1A of the Pierre Canal. We requested information from Mr. Smith as to what access we would have to the other side of the ditch. He assured us that we would be provided with a cattle crossing. He also said that he would check into it for us. On September 3, 1975 we were informed, by letter, that we would receive two box culverts 8 feet wide, 7 feet high and 260 feet long for cross drainage for Dry Run Creek below the canal and that these would be sufficient for livestock and small vehicles. We were also informed that we would be invited to the next landowners meeting. This meeting happened to be on Reach 1B of the Pierre Canal, so it didn't concern us.

At this time we were finally shown a map which showed us approximately where the canal would pass through our property. This was the first time the Bureau had shown us a map of the canal route as it would cross our property.

On September 24, 1975 we attended a landowners meeting in Blunt which we were told was set up to get input from landowners and to answer questions. We tried to talk to the Bureau's engineer, about getting some type of an alternative for the creek crossing. He gave us the impression that that was the way the project was planned and that was the way it was going to be. We then told him that if that was all the interest they had in landowners, they were going to have to go around us because we didn't want them to ruin a whole section of our land.

In March of 1976, Mr. Ronshaugen of the Bureau of Reclamation called several different times when I wasn't home and informed my wife that he wanted to meet with us to negotiate for the purchase of a strip of land that the Bureau needed. My wife asked him what their plans were for cattle access to the rest of the pasture and winter grazing on the other 2/3 of our farm that would be cut off by the canal. He said he knew nothing of any other plans. At this time, I wrote the project manager Preston Funkhouser, and asked what could be done to modify this crossing and how we stood in getting water out of the canal.

On April 6, 1976 the Bureau called and we made an appointment with Mr. Elfrink to come out the following day. He arrived the next day with Mr. Ronshaugen. We discussed several alternatives which looked to us to be a fair compromise. He promised to look at the engineering design and make some considerations. At this point Mr. Ronshaugen wanted to negotiate a price. We told him that unless our terms were met, we wouldn't sell.

Earl Briggs Testimony
 Page 3
 Caha deauthorization hearing

if we were going to get water out of the canal. Mr. Ronshaugen informed us at that time, that we should negotiate as if we were not going to get any water. To us this meant that we weren't going to get any water.

On May 5, 1976 Mr. Ronshaugen arrived once again to negotiate. We told him that his efforts were futile because we still didn't have any information on an alternative crossing. He then said that there was to be no change. Later that day, we received a letter dated May 4, 1976 stating that our alternative of a 8x14 free span or a 7x16 single culvert were considered but rejected due to cost. We were also advised that their offer was \$37,590 for 63.8 acres in fee, 1.7 acres of permanent easement and 0.7 acres of temporary easement. This is the first offer that had arrived in our mailbox. The letter also stated that this amount was the appraised price and that Mr. Ronshaugen would initiate negotiation for purchase of this property. We then received another letter dated July 2, 1976 stating that construction would soon begin across our land that was recently acquired by the Bureau of Reclamation. This land had not been acquired.

After returning from a trip on August 18, 1976 we were served condemnation papers. I tried to return them to the marshall, stating that we hadn't had a chance to negotiate after the Bureau's final decision on the crossing. When he said that we had to take them, another fellow got out of the car and said that we didn't have to accept them. So, I opened his car door and placed them on the seat and left. After they left, I noticed some papers blowing on the ground in our driveway which were the condemnation papers.

I would like to point out at this time that under the Uniform Relocation and Real Property Acquisition Act, the Federal government and the Bureau of Reclamation are required to follow a set of procedures concerning the acquisition of property. For sections 1A and 1B of the Pierre Canal, 11 landowners out of 33 were condemned by the Bureau for the Caha Project. With these 11 landowners, the Bureau repeatedly failed to live up to the guidelines that were outlined under this act. This fact can be proved by examining the Caha Conservancy Sub-District hearing record on land acquisition (1977). There is repeated testimony, including mine, which proves that violations occurred in several major areas. These violations included- not allowing the landowners access to their appraisal records and reports, the landowners weren't allowed to accompany the appraiser, the Bureau didn't make every effort possible to negotiate and prevent condemnation as evidenced in my testimony, and the Bureau did not set a fair price.

I have studied the report by the U.S. House Committee on Government Operations of their investigation in 1976 of the Bureau's land acquisition procedures.

Earl Briggs Testimony
Page 4
Cane desauthorization hearing

know in my case and that of several of my neighbors along the Pierre Canal, that we experienced some of the same problems as the farmers in North Dakota. The Committee found several violations by the Bureau, of the purposes and intentions of the federal Uniform Relocation and Real Property Acquisition Act. I've attached a copy of the section of the report that deals with this area.

On September 30, 1976 Mr. Harris of the Bureau, stopped by our house stating that a survey crew would be working on our land. He also questioned my wife for the fact that we sent a letter to Senator McGovern stating our differences with the Bureau of Reclamation. Upon returning home, I found a 5 man survey crew on our property. I went out and asked their names. At first they refused but when I persisted, they called into Pierre and were instructed to give me their names. Mr. Harris then came out and had nothing new to offer, so I told him that I wanted the project manager to come out with him. I took them to the site, explaining the problem that I was faced with and once again told him that I needed a bigger crossing. He seemed to care less. We then asked him to take our case to the project engineers but he wouldn't.

On January 5, 1977 Mr. Harris called concerning these culverts. He said that they could make one of the culverts wider (9ft) but that the cost would be \$13,000 more and I would have to pay for half of this. I mentioned that I wanted one culvert base at a higher elevation so water would run through the small culvert a good share of the time. He wouldn't do this, so it ended up being another futile conversation. Before the end of the conversation, he offered another \$4,500, but he wouldn't put it writing. It is my understanding that the Bureau isn't suppose to exchange appraisal data after condemnation.

I have some additional information on how the Bureau violated the Land Acquisition Act in relation to offering and setting a fair price for property taken for the project. The following table shows the amount the Bureau offered landowners on the Pierre canal and the amount the court awarded the landowners after condemnation.

PARCEL	BUREAU'S OFFER BEFORE CONDEMNATION	AMOUNT AWARDED LANDOWNER AFTER CONDEMNATION
PC2	\$28,250	\$36,000
PC3	43,720	99,700

Earl Briggs testimony
Page 5
Oshe deauthorization hearing

PC11	\$15,930	\$12,000
PC12	18,575	42,500
PC14	37,590	73,000
PC30	34,500	89,000
	\$178,565	\$382,200

In all cases the court awarded much more than the Bureau's final offer.

Now that construction has ceased on the Oshe Project, I am left with the proposed right of way for the Pierre Canal and a partially constructed culvert that was designed to go beneath the canal. I'd like to point out that my cattle have never attempted to cross through this culvert to get to the other side of my property. I'd also like to add that this culvert has a pool of water at one end because it is unable to drain through. If I were to drive my pick-up truck through this culvert, as the Bureau said it was designed for, and if my truck stalled, I would have to kick the windshield out because the culvert isn't wide enough to allow me to open my doors.

The termination report for the Oshe Project shows that the total land acquired for the Pierre Canal totals 1,748.8 acres. Table 25 of that report shows that the land that is leased and currently used equals 1,262.1 acres. This shows that 486.7 acres have been altered in such a way that they can't be used. This means that if Oshe were deauthorized, 1,262.1 acres can be put back into production. When you include the land that was taken for the Blunt Reservoir, a total of 18,820.1 acres can be put back into production quite easily.

I've attached several photographs which were taken at the end of August which prove that the Pierre canal right of way is very productive and can easily be reverted back to it's original state. For me it would be a matter of simply pulling up the fence that marks the right of way.

I urge this Committee to deauthorize the Oshe Project so I and my neighbors can go forward with our farming operations. I also feel that the Pierre Canal should not be used for any other "proposed" projects. In fact, since my land was acquired specifically for the authorized Oshe Project, I question the legality of using the land that was condemned for another project other than what was originally authorized by Congress. I think that the Committee should also know that any type of a project like Oshe, will be met with resistance from the landowners in our area. I am also enclosing a copy of two petitions

Earl Briggs testimony
 Page 6
 Oahe deauthorization hearing

our area. It is my understanding that several more of these petitions will be given to you today by others.

Thank you very much for your time and consideration. The Committee's decision to deauthorize Oahe, will be a wise and appreciated decision. Thank you.

ATTACHMENTS TO THE TESTIMONY OF EARL BRIGGS

- ATTACHMENT 1- Oshe Conservancy Sub-Districts Land Acquisition Hearing Record.
- ATTACHMENT 2- Copy of a section out of the 28th Report by the Committee on Government Operations
- ATTACHMENT 3- Table 1 and Table 25 from the Bureau's Oshe termination study
- * ATTACHMENT 4- Photographs of Pierre Canal right of way adjacent to my property and of the culvert constructed for drainage and a cattle pass
- ATTACHMENT 5- Petitions opposing an open ditch delivery system

*Retained in subcommittee files.

Table 1.--Pierre Canal Land Acquisition Status as of October 1, 1979
Oahe Unit Termination Study

Parcel	Fee Title Acreage and Usage			Permanent Easement (Acres)	Temporary Easement (Acres)	Summation (Total Acres)	Remarks
	Cropland (Acres)	Grassland (Acres)	Total (Acres)				
PC-1A	32.4	10.9	43.3	4.0	3.6	50.9	
PC-1B	0.6		0.6	2.4		1.0	
PC-1C	58.9		58.9	1.1	4.4	64.4	Civil 76-3045 Condemnation Pending.
PC-1D	2.1	44.0	46.1		15.4	61.5	Civil 76-3042 Condemnation Pending.
PC-1E		1.4	1.4	11.4	7.6	20.4	
PC-1F	111.4		111.4	8.8	2.7	139.3	
PC-5B	136.6		136.6			136.6	
PC-6	1.5		1.5			1.5	
PC-8		2.7	2.7	6.1	4.1	12.9	
PC-9	26.2		26.2	10.7	0.3	27.2	
PC-10	22.9	0.1	23.0	1.3	5.7	30.0	Civil 76-3030 Condemnation Pending.
PC-11	2.1	20.5	22.6	0.9	0.4	23.9	Civil 76-3042 Condemnation Pending.
PC-12	15.1	20.6	35.7	0.8	5.0	41.5	Civil 76-3031 Condemnation Pending.
PC-13		36.3	36.3	0.7	10.2	47.2	
PC-14	24.7	39.1	63.8	0.7	0.7	65.2	
PC-15	33.4	50.6	84.0	0.7	28.3	113.0	Civil 76-3044 Condemnation Pending.
PC-16	18.7		18.7	0.5	5.2	24.4	
PC-17	18.9		18.9	1.8	8.9	29.6	
PC-18	41.8		41.8	1.9	13.9	57.6	
PC-19	17.1	10.3	27.4	0.1	24.0	51.5	Civil 76-3046 Condemnation Pending.
PC-21	16.6	10.0	26.6		2.4	29.0	Civil 76-3040 Stipulated.
PC-22		2.6	2.6	1.4	0.8	4.8	
PC-23	3.9	32.6	36.5		1.1	37.6	
PC-24	101.2		101.2	0.6	11.8	113.6	
PC-25		3.2	3.2		2.9	6.1	
PC-26	24.4	278.0	302.4	0.7	0.2	303.3	
PC-27	17.1		17.1	4.3	1.1	22.5	
PC-28							
PC-29	35.1		35.1			35.1	Civil 76-3035 Stipulated Settlement.
PC-29A							Civil 76-3033 Condemnation Pending.
PC-30		70.1	70.1	63.8	31.6	160.2	Civil 76-3034 Condemnation Pending.
PC-46				2.5	0.3	2.8	
Totals	784.3	630.4	1,414.7	115.2	218.9	1,748.8	

Table 1

Table 25. Project Lands, Leased Lands, and Net Lands Returned to Production for Pierre Canal and Blunt Reservoir
 Relinquishing Facilities and Land Restoration Option
 (ahe Unit Termination Study)

	Project (acres) Lands	Lands Currently (acres) Leased	Net Lands (acres) Returned to Production
<u>Blunt Reservoir</u>			
Cropland	9,268	9,268	--
Grassland	8,290	8,290	--
<u>Pierre Canal</u>			
Cropland	784.3	590	194
Grassland	630.4	338	292
Totals			
Cropland	8,268	9,268	
Grassland	8,290	8,290	

PETITION

We the undersigned landowners or tenants object to the so called West Hughes County Irrigation proposed district. We therefore request and petition the Oahe Conservancy Sub-District Board to refuse the funding for studies by the West Hughes County Irrigato Association in conjunction with the Cendak Water Supply System.

We see the plans of an open ditch delivery system as having the same objections as the original Oahe Project. Such as wildlife mitigation, land severance and land loss, which the people have rejected in the past. We feel these plans would only shift and continue the controversy and hinder any acceptable water development in the near future.

Names:

Address

Date _____

<u>Gerla Rungt</u>	<u>Blut, LD</u>	<u>1-21-8</u>
<u>Helma Rungt</u>	<u>Blut, LD</u>	<u>1-21-8</u>
<u>Thalia Rungt</u>	<u>Blut, LD</u>	<u>1-22-8</u>
<u>Paula Rungt</u>	<u>Blut, LD</u>	<u>1-22-8</u>

Belgian Wargast Blat. 18 1-21-11

Agglutinant Blood 80 1-12-81

Arthur August Blunt, Jr. 1-22-81

I swear that the persons listed above have signed this petition in my presence.

Name of petitioner Barrett
Name of petitioner carrier B. L. & S. L.
Address _____

Name of petition carrier

B. J. S. L.
Address

Address _____

this 20 day of January, 1981

Senator MURKOWSKI. Thank you, Mr. Briggs.

Mr. BRIGGS. I have also submitted five of my neighbors that wanted to add a little written testimony. I have entered all this into the record.

Thank you very much.

Senator MURKOWSKI. So noted. We have your photographs. I note you make reference, as some of the other witnesses have, to the role of the Bureau in providing you with alleged inadequate information or unsatisfactory answers.

I would remind you that if an official hearing is held in Washington, we would invite those who would want to clarify the allegations that they have not received straight answers. You do so, and we will make sure that you get answers, hopefully, that are straight, or that are interpreted by you as such.

We thank you, Mr. Briggs, for your testimony.

The last witness on Panel II is Ms. Darla Rogers. I always have trouble pronouncing the "Ms." because it looks like it should have a "z" on it. I guess that's the way it's done.

Welcome to the committee, Ms. Rogers. We welcome your testimony.

STATEMENT OF DARLA ROGERS, ATTORNEY, ONIDA, S. DAK.

Ms. ROGERS. Thank you, Senator Murkowski, other members of the panel. I would like to refer to the testimony of one of the witnesses this morning who represented the WEB Association. I apologize for failing to get down his name. He did state, however, that no consideration was given to landowners in the Oahe unit project. The gentleman concluded his comments by stating, and I quote, "I wanted WEB, and I want my water hole."

I would like to specifically refer to the words "I want my water hole," and I would suggest that these words paraphrase my testimony here today.

My name is Darla Pollman Rogers, and I represent some of the original landowners, primarily from Sully County, whose land was acquired by the Bureau for the Oahe project.

At the time the Bureau acquired the land from these owners, it was a purchase; however, I would add parenthetically that these original landowners had the choice of either selling their land or having it condemned, if, indeed, you can call that a choice.

At that time, the Bureau orally represented that the landowners could have the use of their land until it was actually flooded, and in the event the project did not materialize, they could buy their land back from the Bureau. These were oral representations.

Circumstances have changed since that time, and the Oahe unit as originally conceived did not materialize. The landowners, some of them, the ones I represent, have been leasing their land back from the Bureau, but they have received word this policy may be discontinued.

The landowners that I represent do not oppose water development, and they are not specifically opposed to Senate bill 1553, but they are the ones who have actually sacrificed their land for water development purposes, and they would like to be protected legislatively as well, specifically in a twofold way.

First of all, these original landowners would like to be able to continue to use their land until it is actually needed for flooding in a water

project, if one is developed. And this includes study period, any study periods authorized by Senate bill 1553 or any other bill.

And in the second place, in the event of deauthorization of the Oahe unit or in the event that it is altered to such an extent that their land is no longer needed, the original landowners would like the opportunity to buy back their land through a right of first refusal.

And they need this protection by having such a dispositional scheme written into actual deauthorization or alteration legislation of the Oahe unit.

I would direct the committee's attention specifically to a concurrent resolution passed by the South Dakota Legislature during the 1980 session in support of the position of the landowners that I represent, and that's attached to my written testimony.

Thank you very much.

[The prepared statement of Ms. Rogers follows:]

WRITTEN TESTIMONY AT SENATE HEARING ON SENATE BILL 1553
PIERRE, SOUTH DAKOTA, SEPTEMBER 12, 1981

TO: Senator Murkowski, Chairperson, and other members of the
Interior Subcommittee of Energy and Natural Resources

My name is Darla Pollman Rogers; I am an attorney from Onida, South Dakota, and I represent the following original landowners of lands acquired by the Bureau of Reclamation for construction of the Oahe Project:

Merle L. Ankrum	Highmore, South Dakota
Lester J. Ankrum	Highmore, South Dakota
Mr. & Mrs. Rickey Leesman	Blunt, South Dakota
Mr. & Mrs. Harlan Smith	Harrold, South Dakota
Larry Galinat	Harrold, South Dakota
Marvin Barnes	Harrold, South Dakota
Rollin F. Barnes	Harrold, South Dakota
Leonard J. Pollman	Blunt, South Dakota
Fern J. Pollman	Blunt, South Dakota
Barbara Winkler	Onida, South Dakota
Duane Winkler	Onida, South Dakota

BACKGROUND

The United States Congress authorized construction, operation, and maintenance of the initial stage Oahe Unit, James Division, Missouri River Basin Project, South Dakota, by Acts dated August 3, 1968 and October 27, 1972. The purpose of said Acts was, among other things, to furnish a surface irrigation water supply. In June of 1972, the Secretary of Interior, acting through the Bureau of Reclamation, started acquiring land for construction of the Oahe Project. This acquisition process continued through 1977. All of the above named landowners owned property in Sully and Hyde Counties that was so acquired.

For purposes of properly representing the position of these landowners, it is necessary to briefly summarize the circumstances surrounding the Bureau's acquisition of their land. A representative from the Bureau of Reclamation contacted each landowner individually, requesting his or her cooperation in the Oahe Project by voluntarily selling his land to the Bureau. The choice presented to the landowners was to sell their land to the government, or to have it condemned. The Bureau made oral representations to the landowners as follows:

-2-

1. The landowner could rent his land back from the Bureau, and thus maintain it in his farming operation, until the land was flooded.
2. The landowner could buy back his land in the event the Project did not materialize.

These oral representations were not incorporated into the purchase contracts drafted by the Bureau. Each of the above-named landowners, however, relied upon these oral representations, and sold his land to the Bureau. They have all been renting the land back from the Bureau, uninterrupted, from the time they sold it until 1979.

In 1979, the landowners received notice that they would only be able to rent their land for one more year, the crop year of 1980. After that, the land would be put up for public rent. The landowners named above got together and contacted the Bureau and the South Dakota Congressional Delegates to try to persuade the Bureau to continue its policy of leasing the land back to the original landowners. The landowners' efforts were successful, and they currently are still renting their land, subject to substantial increases in the amount of rent. The Bureau has again notified the landowners that next year will be the last year they will be able to rent the land (crop year of 1982), and thereafter, it may be offered for rent at public auction. This places the landowners in an uncertain, fluctuating position wherein it is hard for them to plan their farming operations from one year to the next when they do not know whether they will have the land as part of their farming unit for the next crop season.

POSITION

The overriding position and concern of these landowners is toward their land. Succinctly stated, they want the use of their land until it is actually flooded, or in the event of deauthorization they want a right of first refusal on their own original land. Since the Bureau had orally promised the landowners these two things at the time they sold their land, their desires are certainly not unreasonable.

The particular purpose of the original landowners in no way clashes with Senate Bill 1553. These landowners are not opposed to water development, nor to the further study of alternate facilities authorized in Section 2 of the bill. In the Summary and Analysis of Senate Bill 1553 placed on the Congressional Record, Section 3 would permit cancellation of the master contract on the Oahe Unit, and Section 5 provides for the possible use of funds for the study authorized in Section 2(a)(1) being available from "deauthorizing the Oahe Unit at the appropriate time."

While the landowners named herein are not taking a position on the issue of deauthorization of Oahe, they are interested in protecting their rights to the land in the event deauthorization of Oahe does occur "at the appropriate time." If deauthorization of the Oahe Project does occur, disposition of the land acquired by the Bureau would be in accordance with federal law, and the original landowners would be among the last to have the chance to buy back their land.

As stated earlier, this is contrary to the interests of the original landowners. Their position is that they should have the first chance to buy back their land, and then, if the original landowner, (or his heirs, assigns, or successors in interest) does not want the land, then it could be offered either to federal or state agencies, or put up for public bid. This dispositional scheme must be written into the deauthorization legislation itself. The landowners are supported in their position by the South Dakota Legislature, which passed a Concurrent Resolution during the 1980 Session favoring disposing of the land acquired for the Oahe Project by first offering it to the original landowners. A copy of the Resolution is attached to this Testimony, marked Exhibit A, and incorporated herein by reference.

In relating the landowners position to Senate Bill 1553, the original landowners are not opposed to the further study of water development authorized therein. They do, however,

-4-

want to continue to lease their land from the Bureau throughout the study period, and up until water development actually occurs, if any further projects are found to be feasible and are pursued. This is consistent with the representation of Bureau officials at the time the Bureau purchased the land. It is also consistent with the best and most efficient use of the land during the interum period before more water development or deauthorization occurs, as no one has more concern and knowledge of the best way to utilize the land than the original landowner. To implement the continued leasing arrangement between the Bureau and the original landowner, the landowners would propose adding language to Senate Bill 1553 stating that the original landowners shall have the opportunity to lease their land from the Bureau pending further water development or deauthorization.

Finally, the original landowners seek the support of the committee with regard to their second premise -- that of a right of first refusal of the original landowner in the event the Oahe Unit is deauthorized, as stated in this testimony and in the attached Concurrent Resolution. To the extent that the subject of deauthorization of Oahe Unit is addressed in Senate Bill 1553, and more particularly in any forthcoming legislation addressing the issue, these original landowners solicit support for their position of including a right of first refusal in favor of the original landowner within the provisions of any Oahe Deauthorization Act.

Respectfully submitted,


Darla Pollman Rogers
Attorney for Original Landowners
MEYER LAW OFFICE
Box 89
Onida, South Dakota 57564

EXHIBIT A

A CONCURRENT RESOLUTION, Citing legislative interest in the status of the irrigation project for the Oahe unit, James division, Missouri River Basin project in South Dakota.

WHEREAS, the construction, operation, and maintenance by the Secretary of the Interior of the initial stage Oahe unit, James Division, Missouri River Basin Project, South Dakota, was authorized by the Senate and House of Representatives of the United States of America, by Acts of August 3, 1968, and October 27, 1972, for the purpose of furnishing a surface irrigation water supply and for other purposes; and

WHEREAS, the United States Department of the Interior acquired land pursuant to its power of eminent domain in Hughes and Sully Counties for the purpose of constructing the Oahe project; and

WHEREAS, there is currently pending before the Congress of the United States deauthorization legislation which does not provide adequate protection for South Dakota landowners whose real property was taken from them for the Oahe Project;

NOW, THEREFORE, BE IT RESOLVED that if the Oahe Project is deauthorized and no new projects using the same facilities are authorized, the State of South Dakota favors that the property acquired be disposed of by first offering said property to the original landowners, their heirs, assigns, executors, administrators, surviving joint tenants, or their successors in interest to the property, at the original purchase price or appraised value at date of deauthorization, whichever amount is less.

Be it further resolved that copies of this Resolution shall be submitted to the South Dakota Congressional Delegation.

Senator MURKOWSKI. Thank you, Ms. Rogers, for your very concise testimony. I assure you it will be entered into the record in its entirety. We very much appreciate your presentation.

With that, we will excuse panel II and call upon the last panel. That group consists of George Alberts of Groton, S. Dak.; Keith Wilkins, Mansfield, S. Dak.; Harold Seaton, Aberdeen, S. Dak.; Glenn Overby, Millette, S. Dak.; Clarence Erickson, Groton, S. Dak.

Mr. WILKINS. Mr. Chairman, Mr. Alberts is not here today. He submitted his testimony.

Senator MURKOWSKI. Thank you.

I think that this particular panel group merits special consideration by the Chair. It is now 5:35, and I note that you gentlemen have been with us for the most part throughout the day. So I welcome you to the pool of hard chairs and ask that you proceed with your testimony, which we eagerly await.

Mr. Alberts—excuse me, Mr. Wilkins, you may please proceed.

STATEMENT OF KEITH WILKINS, FARMER, MANSFIELD, S. DAK.

Mr. WILKINS. Mr. Chairman and members of Energy and Water Committee, my name is Keith Wilkins; I live in Faulk County, Fairview Township. My wife and I have lived on this farm for 31 years and raised our family here. We have made some major improvements on the land and building.

I am attaching a copy of my testimony I gave at Miller, S. Dak., on March 31, 1977, on the wildlife hearing. I will read from the third paragraph starting with the "U.S. Fish and Wildlife":

The U.S. Fish and Wildlife Service land buying proposal would take 220 acres, which I own and 60 acres of land which I currently rent. This amounts to more than one-third of my cultivated acres or about 42 percent of it. The land they wish to buy is some of the best land on that section. There will be only 15.9 acres left on that section which is a ridge that is sandy and blows.

Getting back to my testimony, "Mitigation for Wildlife." I do not believe that I or any other farmer should have to give up or sacrifice his or her farm, or part of farm, for someone else's gain. I believe that anyone who receives water from any project should be obligated for mitigation.

There are a lot of us family farmers who practice wildlife habitat without mitigation. There has been large corporate farming move in and take up all fences, bulldoze all trees, tree claims, wells, filling in dugouts, and burying farm buildings with no thought to habitat.

I do not believe that I or anyone else had to be pushed down the ladder or possibly clear off it so that someone else can go up on this ladder.

Our Governor and special interest people would like to put this Oahe-Cendak, so forth, up to a vote of all people in the State. I do not think this is fair because we cannot vote in Sioux Falls, Rapid City, or here at Pierre on any of their bond issues, city taxes, and so forth.

We do not need a canyon. It is not a ditch when it will be about 100-feet deep and over 1,000-feet wide. It has been proved that the land is irrigable along and on both sides of the river. Would it not be better to irrigate along the river where there would not be any need for mitigation?

In summary, deauthorization of Oahe, do away with all mitigation, help farmers and ranchers with riverside irrigation, and watch out for Cendak.

I thank you for this hearing, and I also thank the Oahe subdistrict office and the United Family Farmers, Inc., for informing me that I could testify. I am one of the farms that it being mitigated that did not receive an invitation from Senator Jim Abdnor.

Senator MURKOWSKI. Thank you for your testimony, Mr. Wilkins. We appreciate it.

The next witness is Harold Seaton. Mr. Seaton, you may proceed.

STATEMENT OF HAROLD SEATON, S & S FARM CORP.

Mr. SEATON. Thank you, Mr. Chairman and Senator Abdnor. My name is Harold Seaton. I am representing the S & S Farm Corp. We farm in the West Brown irrigation district. We have got about 1,300 acres of land in the family, 1,000 of which is in the West Brown irrigation district as irrigation land. The rest of the land was signed out before we farmed it.

We farm other land, but it's rent.

We feel that Senate bill 1553 in our particular family situation isn't adequate. I have to go with the Berkley Bedell bill because it doesn't look like it's doing anything for us. I say that in all sincerity because if you look at this thing—now, we hear so many rumors and rhetoric just the last 2 days, it almost dizzies one.

But you see, if you really use simple arithmetic, we have \$41 million already spent—most of it in administration—a lot of it, at least. When you start earmarking that per acre, divide 190,000 acres into \$41 or \$2 million there is already a lien on this land that's in the irrigation district of \$220 an acre. It's staggering, especially for an old conservative sheepherder like me.

Now, we have been there 100 years. This is our centennial year, and we have run through some pretty rough times. We know all about that ballgame. We can sympathize with these people that are in Cendak that have had tough going in the last few years.

I would like to have you turn to the testimony sheets that I have put up there. Turn to the second page from the last, and I would like to illustrate something.

If you see the red circle around the one section of land, that section is 22 in West Jim Township. That is where my great grandfather homesteaded in 1880. Now, if you see this white part; that white part is class 6 land. There is approximately 265 acres in that plot of ground. It's lower than the rest of it by about 20 feet. That's creek bottom land.

We run a lot of ewes, and we have for years. We have been in the sheep business, and we have 700 or 800 to 1,000 ewes in these creek bottom flats every year. Sometimes if it is droughty, we have less; sometimes when we have normal rainfall, we have more.

Now, on the other hand, we have got 348½ acres that are irrigable, some of it to a better degree than others. Now, can you imagine a water table 3 foot from the surface. Mr. Chairman, and we in this valley are 20 feet below that surface. Water seeks its own level. We would lose 268 acres of really productive land, because that's where these ewes are summered.

Now, that would compromise about \$100,000 worth of cashflow for our operation. It would be quite a task to make that up in an irrigation project.

Now, I would like to call your attention to something else here. I am going to read one little excerpt, and I'm not going to be long, but I—you know, I really would like to learn to know these Cendak people better. They are good fellows; they are good old boys. They are just like we are. The only thing, in the time frame situation, they are probably about where we were in 1970. Knowing what was going on as far as what this would really do for them.

Now, if it will do some good for them, I can go along with it, but I think they had better stop, look, listen. I say it with all sincerity. I am not trying to be smart; I am just saying it as a good old boy over east.

Now, it kind of looks to me like these people could be backing into the buzz saw, so to speak, so I am going to read this. Now, this is a statement out of the Upper Missouri River Water Users Association convention. Now, the statement was made by Mr. Maierhofer. He was the expert in drainage at that time of the Bureau of Reclamation. Not only does he point to the fact of drainage and flooding, he also makes an interesting statement about the fact that the Bureau has received negative publicity about not recognizing drainage problems. One reason is pressure from local booster clubs—and we have said a lot of that here today—to build projects which were not very good ones, such pressure groups may come from chambers of commerce. We saw that here today—influential individuals, good old boys, but politicians. Almost any entity or individual on such shady projects, cost estimates must be kept down if feasibility is to be demonstrated.

While these boosters may be sincere, they will go almost to any length to make their pet project look good and Congress appropriate money to build it. They are not trying to have us build a marginal project; they just don't understand the consequences.

Such local pressures can be tremendous, and sometimes people have been so blind to potential drainage problems that grew to be very serious after the projects was built and the irrigation was started.

Now, I would like to paraphrase it. You know, if you get your hand in a pail of glue and you stick your other hand in to try to get out, you have got a problem. Then you have got your pants around your knees, and you really got a problem. That's the situation that these people could be backing into. I am not saying it's for sure, but I think they better stop and listen.

Now, I have got four pictures up there just to kind of show you that we don't live in the desert. The No. 1 picture is 160 acres of sunflowers. Now, the only reason that they are good is that fact that we had real good weed control. That's the only reason, because we were 3 inches below normal. Those pictures were taken August 25.

The next B picture is of soybeans. Now, nobody raises soybeans up in our country. We are just one of the crazy ones. We have been toying with it. The reason we do it is to try to put some nitrogen back into the soil because anhydrous is too darn high-priced. We are getting pretty good results; the yields haven't been that bad. There, again, weed control.

Then the cornfield is C. That's just an average cornfield in that country this year, and we have been blessed with a little more water than some of our neighbors. And I feel sorry for those that haven't been.

Now, that picture D, we were just drinking water out of that jug, that Neobra spring water from Nebraska. We buy it for 75 cents a gallon.

We have got three artesian wells, but I don't like the artesian water, so we drink that. It's really good water. In fact, we got a \$1,000 price on that project in hookup fees and good intention fees, and what have you. Boy, we have really kind of got our head on the chopping block on that one.

Now, you know, there is one more thing that I would like to call to your attention, too. Now, Governor Janklow is really a nice young fellow. I don't know if he is in the audience, but if he is, I would just kind of like to have him listen to me. You know, I am a little older than he is, and I have been around quite a little while, and I hate to paraphrase it as a father-son talk, but he made a statement, and he is such an eloquent speaker that he can get away with it.

He made a statement that I didn't really like. He made a statement that Mr. Wessel had said that he was making money in his farming operation down at Huron with about 8 inches of water. Now, he didn't say that necessarily. He said that he was "making it."

Now, you can have a pretty good crop and not make money. You can have a very good crop and not make money. As long as we are in the center of cheap food in this country—and nobody said anything about that today—as long as we are in that center in this country, take it back to Washington, Owen, and tell Jim for me, we aren't going to be much in the driver's seat in agriculture.

I don't care whether they are irrigating out of wells, out of the Missouri River water, or dry land farming. There isn't any other way. When you start measuring what we have got to buy with wheat, bushels of wheat, it's staggering.

I flew after a part for my Falcon. I put it in my pocket. I had 15 bushels of wheat in my pocket, and I couldn't see for a swap. Now, that's ridiculous. I tell you, that's going to have to change before agriculture is going to be able to get on its feet.

I don't care whether its Cendak, well irrigation, or whether its dry land farming.

I guess that's all I have. If there are any questions, I would try and answer them.

[The prepared statement of Mr. Seaton follows:]

SEPTEMBER 12, 1981

TESTIMONY OF HAROLD SEATON/SENATE SUB-COMMITTEE ON WATER AND POWER/OAHE DEAUTHORIZATION HEARING/PIERRE, S.D.

CHAIRMAN MURKOWSKI:

MY NAME IS HAROLD SEATON. I AM REPRESENTING THE S AND S FARM CORPORATION. WE FARM 1,300 ACRES IN THE WEST BROWN IRRIGATION DISTRICT. I AM SPEAKING BEFORE YOU TODAY FOR TWO REASONS. THE FIRST REASON IS THAT I FEEL THAT SENATOR ABDNOR'S DOESN'T GO FAR ENOUGH TOWARD DEAUTHORIZING THE OAHE PROJECT AND ENDING WHAT COULD HAVE BEEN A TRAGIC BLOW TO OUR FARM AND THE FARMS OF OTHERS IN THE IRRIGATION DISTRICT. SECONDLY, THERE HAS BEEN A LOT OF DISCUSSION ABOUT USING THE AUTHORIZATION FOR THE OAHE PROJECT TO DEVELOP ANOTHER LARGE IRRIGATION PROJECT LIKE THE OAHE PROJECT.

WHEN I FIRST HEARD OF THE OAHE PROJECT, I LIKE MANY OTHERS, ~~WAS~~ IN FAVOR OF IT'S DEVELOPMENT. AFTER I BEGAN TO LOOK A LITTLE FURTHER INTO THE OAHE PROJECT, I BEGAN TO REALIZE THAT IT'S DEVELOPMENT WOULD HAVE A SERIOUS IMPACT ON OUR FARMING OPERATION. I AM ENCLOSING SOME INFORMATION WHICH WAS TAKEN FROM THE PROCEEDINGS OF THE 15TH CONVENTION OF THE UPPER MISSOURI WATER USERS ASSOCIATION, JANUARY 1963. THE SKETCH THAT I HAVE ATTACHED WITH THIS INFORMATION SHOWS DEEP SOILS ABOVE AN ALMOST IMPERMEABLE GLACIAL TILL, WITH A WATER TABLE BEFORE IRRIGATION.

I HAVE ALSO ATTACHED A COPY OF A MAP IN WHICH THE BUREAU OF RECLAMATION SHOWED THE LAND CLASSIFICATION ON MY PROPERTY. AS YOU CAN SEE, THE MAP SHOWS THAT THERE ARE 348.5 ACRES OF LAND THAT WAS CLASSIFIED AS IRRIGABLE BY THE BUREAU OF RECLAMATION. THE MAP ALSO SHOWS THAT THERE ARE 268.4 ACRES OF LAND THAT IS CLASS 6 OR NON-IRRIGABLE. YOU WILL NOTICE THAT THE MAJORITY OF THIS CLASS 6 LAND IS LOCATED ALONG MOCCASIN CREEK. NOW THE PROBLEM WE HAVE IS THAT THE WATER TABLE THAT I MENTIONED IS GOING TO BE, ON THE AVERAGE, 3 FEET BELOW THE LEVEL OF THE IRRIGATED LAND, AS A RESULT OF THE DEVELOPMENT OF THE OAHE PROJECT. ACCORDING TO THE ELEVATIONS SHOWN ON THE MAP I PROVIDED YOU, THE IRRIGATED LAND WILL BE AT APPROXIMATELY 1300 FEET. THE MAJORITY OF THE CLASS 6 LAND IS AT AN ELEVATION OF 1280 FEET. SIMPLE MATHEMATICS SHOW THAT THE MAJORITY OF THE LAND IN CLASS 6 WILL BE UNDER SEVERAL FEET OF WATER. CLASS 6 LAND ENCOMPASSES ABOUT 44% OF THE LAND ON THIS SOIL MAP.

EVEN THOUGH THE BUREAU CLASSIFIED THIS LAND AS NON-IRRIGABLE, IT IS STILL VERY IMPORTANT TO MY FARMING OPERATION. IT ISN'T LAND THAT SHOULD BE RUINED BY PUTTING SEVERAL FEET OF WATER ON IT. AS I'M SURE THIS COMMITTEE IS AWARE, THIS COUNTRY IS LOSING TOO MANY ACRES OF PRODUCTIVE LAND EACH YEAR THE WAY IT IS. I DON'T THINK IT IS A VERY RESPONSIBLE ATTITUDE TO DEVELOP OAHE OR ANY OTHER PROJECT LIKE IT, THAT WILL SPEED UP

HAROLD SEATON/PAGE 2

THIS PROCESS.

NOW, I WOULD AGAIN LIKE TO DRAW YOUR ATTENTION TO THE INFORMATION FROM THE UPPER MISSOURI RIVER WATER USERS ASSOCIATION CONVENTION. IN THE STATEMENT OF MR. MAIERHOFER, OF THE BUREAU OF RECLAMTION, NOT ONLY DOES HE POINT THE FACT OF DRAINAGE AND FLOODING, HE ALSO MAKES AN INTERESTING STATEMENT ABOUT THE FACT THAT THE BUREAU HAS RECEIVED NEGATIVE PUBLICITY ABOUT NOT RECOGNIZING DRAINAGE PROBLEMS. ONE OF TWO REASONS HE GIVES FOR THIS PROBLEM IS THAT, " ONE REASON IS PRESSURE FROM LOCAL BOOSTERS TO BUILD PROJECTS WHICH ARE NOT VERY GOOD ONES. SUCH PRESSURES MAY COME FROM THE CHAMBER OF COMMERCE, INFLUENTIAL INDIVIDUALS, POLITICIANS, OR ALMOST ANY ENTITY OR INDIVIDUAL. ON SUCH SHADY PROJECTS, COST ESTIMATES MUST BE KEPT DOWN IF FEASIBILITY IS TO BE DEMONSTRATED. WHILE THESE BOOSTERS MAY BE SINCERE, THEY WILL GO ALMOST ANY LENGTH TO MAKE THEIR PET PROJECT LOOK GOOD AND CONGRESS APPROPRIATE MONEY TO BUILD IT. THEY ARE NOT TRYING TO HAVE US BUILD A MARGINAL PROJECT; THEY JUST DON'T UNDERSTAND THE CONSEQUENCES. SUCH LOCAL PRESSURES CAN BE TREMENDOUS, AND SOMETIMES PEOPLE HAVE BEEN BLIND TO POTENTIAL DRAINAGE PROBLEMS THAT GROW TO BE VERY SERIOUS AFTER THE PROJECT WAS BUILT AND IRRIGATION STARTED."

I THINK WHAT MR. MAIERHOFER SAID WAS VERY CLEAR OF WHAT TOOK PLACE WITH THE OAHE PROJECT. LUCKILY, THE PROJECT HAS BEEN STOPPED, SO WE DIDN'T REACH THE POINT THAT THIS BLINDNESS WOULD HAVE CAUSED EXTREMELY SERIOUS PROBLEMS. I ALSO FEEL THAT YOUR COMMITTEE SHOULD BE VERY CAREFUL IN IT'S DELIBERATION OF ANY ALTERNATIVE IRRIGATION PROJECTS. WHILE I FEEL THAT SOUTH DAKOTA SHOULD BE COMPENSATED FOR THE LAND THAT WE LOST TO THE DAMS ON THE MISSOURI, I DON'T THINK THAT COMPENSATION SHOULD COME IN THE FORM OF A PROJECT OR PROJECTS THAT ARE POORLY PLANNED AND SUCH FACTORS AS DRAINAGE AND FLOODING ARE IGNORED, ONLY TO SATISFY A GROUP OF BOOSTERS THAT ARE IN MOST CASES, UNAWARE OF AND BLIND TO SOME OF THE SERIOUS PROBLEMS ASSOCIATED WITH A MASSIVE IRRIGATION PROJECT.

THE LAST ITEM THAT I WANT TO DISCUSS IS THE LAND THAT IS IN THE IRRIGATION DISTRICT. I AM ATTACHING SEVERAL PHOTOGRAPHS WHICH SHOW THE CROPS THAT ARE CURRENTLY GROWN IN THE WEST BROWN IRRIGATION DISTRICT. WHEN THESE PICTURES WERE TAKEN LAST MONTH, THESE FIELDS WERE 3 INCHES BEHIND NORMAL RAINFALL. AS YOU CAN SEE, EVEN IN A DRY YEAR MY CROPS ARE DOING WELL. THE CORN, SUNFLOWERS, AND SOY-BEANS ALL LOOK VERY GOOD. I APPRECIATE THE FACT THAT THE GOVERNMENT IS TRYING TO HELP SOUTH DAKOTA OUT WITH WATER DEVELOPMENT. THESE PHOTOGRAPHS PROVE THAT I DON'T LIVE ON A DESERT AND THAT I DON'T NEED THE OAHE PROJECT OR ANY OTHER MASSIVE IRRIGATION PROJECT. WHAT I DO NEED IS DRINKING WATER AND A PRICE FOR THE PRODUCTS I PRODUCE. CURRENTLY, I AM FORCED TO BUYBOTTLED WATER AND LIVE WITH PRICES THAT ARE TOO LOW. I FIRMLY BELIEVE THAT IF THE FARMERS IN THIS AREA HAD A CLEAN SUPPLY OF LIVESTOCK AND DRINKING WATER AND A PRICE FOR THE PRODUCTS THEY PRODUCE,

HAROLD SEATON/PAGE 3

WE COULD LIVE THROUGH THE OCCASIONAL DROUGHTS THAT WE ARE FORCED TO FACE. WHILE YOU CAN'T CHANGE THE WEATHER, YOU CAN CHANGE OUR PRICE LEVELS AND THE FACT THAT WE HAVE TO LIVE WITH POOR QUALITY WATER.

I WOULD LIKE TO THANK YOU CHAIRMAN MURKOWSKI, FOR TAKING THE TIME TO COME OUT TO SOUTH DAKOTA. I AM URGING YOU TO DEAUTHORIZE THE OAHÉ PROJECT, SO I AND MY NEIGHBORS WILL NOT HAVE TO LIVE WITH THE THREAT OF IT BEING BUILT AND SO THE FEDERAL LIEN AGAINST OUR PROPERTY CAN BE REMOVED.

THANK YOU.

EXHIBIT 1

A luncheon was held in the Wedgewood Room of the Northern Hotel for the ladies attending the Conference. Members of the committee arranging the luncheon were Mrs. Harold G. Arthur, Mrs. Walter A. Doettcher, Mrs. James L. Doyle, Mrs. Kermit K. Kober, Mrs. John R. Robertson, and Mrs. Don Woltersdorf. A style show arranged by Mrs. Frances Lux was enjoyed.

AFTERNOON SESSION - JANUARY 24, 1963

Presiding: Robert M. Fagerberg, President

DRAINAGE OF RECLAMATION LANDS

C. R. Maierhofer, Chief,
Office of Drainage and Groundwater Engineering
Office of Chief Engineer

The science and engineering of drainage have come a long way in the last half century. Today drainage is out of the guessing and speculating stage. Although sound judgment is still essential to a good job, we now have the technical tools to make drainage a precise and economically feasible engineering undertaking. This is fortunate because, except in rare instances, drainage is essential to successful, sustained high productivity under irrigation. This is the way nature made it, and we cannot change it.

We start with certain things. We have given soils underlain by various substrata and geologic formations, and the area has a certain topography. There will be a wild plant community of some sort. Rain and snow fall more or less regularly for a locality, and under nature all these things have reached a balance. They stay that way until we come along. We clear the land, level it, irrigate it, plant crops, try for higher production, and put on more water than nature intended. What happens? We have a drainage problem. We get water-logging or salinization, or both - they usually go hand in hand.

We are concerned mostly with what happens beneath the surface - subsurface drainage, as it is called. Surface drainage is important, but it is simple. It is like draining the kitchen sink. Water runs downhill, it must be kept moving, not allowed to pond, so the land won't get too wet from it. This is surface drainage. The other kind of drainage that is so essential, subsurface drainage, is a form of land maintenance. We must maintain dams, canals, pipelines, and roads; we must maintain land also. Drainage is an important way. With good drainage, even the worst farmer cannot very well ruin good land. With poor drainage, the best farmer cannot be successful. Sooner or later salts or ground water, or both, will reach the surface zone of the soil,

where the plants grow. This may take 2 years or 20 - sometimes longer. A good definition for drainage is "the removal of excess water and excess salt from agricultural lands." It may seem odd to speak of "draining" salt, but the only way to move salt in soil is to dissolve the salt in water and then do whatever is needed to move the water.

The Bureau of Reclamation is basically concerned with the drainage of irrigated lands, or lands that are not irrigated but require drainage because of nearby irrigation. Our principal objectives are to predict and prevent waterlogging and to keep salts and alkalis away from the plants. Today, we try to avoid the necessity of having to reclaim waterlogged lands, by not allowing them to become that way in the first place. When an irrigated area does become too wet or too salty, we do not consider it an opportunity for a drain construction program. We consider we have failed in our prevention program, or we have not maintained the lands in good condition through drainage, or we did not in the first place wisely select lands to which to bring irrigation water.

The general feeling among people not closely associated with them has been that drainage problems don't develop for a good many years after irrigation. In most cases, this has not been true. The problems may develop slowly, but they start soon after irrigation starts. Sometimes the causes are not readily apparent, and a bit of deductive analysis is needed to locate them. I have in mind a project, for example, in the Upper Missouri River Basin, where a drainage problem developed. The farmer was raising alfalfa. We made a little investigation, spent some money, gave him good, fully adequate drainage, and the alfalfa recovered and did fine.

A few years later, the farmer changed to beans, and he again had a drainage problem. The new problem was obviously associated with the change in crop, but why? - it didn't quite add up. We looked further. Alfalfa requires a lot of water, it has deep roots, and relatively little water went into deep percolation the way the farmer irrigated his alfalfa. Beans have shallower roots and require much less water. They should be irrigated more often than alfalfa, but with much smaller amounts of water.

Although this farmer irrigated his beans as often as he should, he used as much water each time as he had been accustomed to putting on his alfalfa. Since the beans couldn't use this much water, the percolation to ground water was much more than it had been for the alfalfa. Therefore, the drainage requirement was considerably higher than it had been for the alfalfa and a drainage problem again developed because there were not enough drains for the new conditions. Had the farmer irrigated his beans properly, no

new drainage problem would have developed because the old drains would have controlled the ground water, and some money would have been saved. The moral, of course, is that efficient farming practices, including the proper use of water, insure good returns at least cost, which makes for a successful and profitable farming operation.

In planning many of our new projects, we anticipate expensive drainage problems. Some people seem to think this is an innovation. They recall in a faint way that some of the older projects have required a few drains and seem to think that the current emphasis on drainage is something of a fad. If it is a fad, it is here to stay because it is one of the economic facts of life in light of today's necessity to produce high yields to stay in business. The need for drainage hasn't developed just in the last few years; it is just that people are becoming more to recognize the benefits. Fortunately the trend in drainage planning, construction, and maintenance is upward also.

According to the records, the Bureau has had only 2 years in its history without identified drainage problems. The first two annual reports of the Bureau, 1902 and 1903, mentioned only the development of irrigation works and irrigation problems and practices, but the third report, in 1904, mentioned a need for drainage on the Yuma Project in Arizona and on the Klamath Project in California and Oregon. Projects in the Bureau's Region 6 area got by pretty well until 1911 and 1912. The annual report for 1912 recognized the seriousness of drainage problems on the Huntley, Lower Yellowstone, and Shoshone Projects. As you know, these projects have had drainage problems continually since that time; so have other projects all over the West, and I am sure we will continue to have them.

Drainage in the Bureau has had its ups and downs. Sometimes the problems increased faster than the construction to relieve them. Never have we been completely caught up; drainage does not work that way. As one problem is controlled a new one develops. By 1917, many projects had been forced to suspend collection of construction charges because of high ground water and seeped and salted lands. Then, during the agricultural depression of the early twenties, things really went bad because farmers had no money to do anything. Some people believe this depression was the primary cause of the big one that followed in 1929.

The agricultural depression was undoubtedly the major factor that brought on the Fact Finders Act of 1924. Much land was out and going out of production. Some was poor land that was not worth saving. Much of it, however, had been good land, but could not be saved because there was no money. Although it seemed a gloomy thing at that time, I believe the Fact Finders Act was really a fine thing because it led to the necessity of an awareness of drainage problems. This Act

prevented the development of lands that were not productive enough to provide a living for a farm family and pay the costs associated with irrigation, including those for the drainage construction required to keep the lands productive.

Strangely enough, the big depression of the thirties also helped the cause of drainage. Under the National Industrial Recovery Act, Federal money was thrown into these things. Many drains were publicly financed and built, and we have had steady progress in drainage since, except for a few war years. These years saw real drainage problems pop up again. There was some excuse for it. It was a time of national emergency and there were severe manpower and material shortages. Machines and equipment were hard to get and the skeleton force that stayed behind couldn't keep up with the problems. But the projects, the farmers, and the Bureau weathered this one too. Except for a few notable trouble spots in this region and elsewhere, the drainage situation on our projects today is good, even though farm income for some commodities may not be so good.

Although the day of complete drainage on Bureau projects is just dawning, the Bureau has already built a lot of drains. Our records show a total of 6,890 miles in the original 17 Western States. Region 6 alone has 1,711 miles of drains. These are honest figures, but probably not accurate ones. However, they are indicative of the magnitude of the program. We know that irrigation districts have built drains that we know nothing about, and we also know that some districts have backfilled drains they thought they didn't need, so the inventory is never exact. Actually, we do not worry about these statistics because nothing could be gained by spending the money it takes to keep an accurate current survey. In the final analysis, the land is in good shape or it is not.

We may not know in detail about all the drains that have been built, but we certainly try to know about all the ones that ought to be built. Current Bureau policy is to foresee drainage problems and the cost of correcting them before they develop. Even before we build a project or before we go to Congress and ask for money to build a project, Congress demands that we foresee the drainage problems. Some of you probably believe that drainage engineers overemphasize the importance of drainage. I don't believe drainage is overemphasized, but this is immaterial. It is the law.

The Bureau of Reclamation has had much unfavorable publicity because of not recognizing drainage problems. Actually, it has been written policy since 1914 that we should foresee them; however, as many of you know, we have not always followed this policy too closely. I have often wondered why, and have done some thinking and reading

on the subject, because it has sometimes seriously hurt the cause of irrigation in the West. I believe there are two principal reasons.

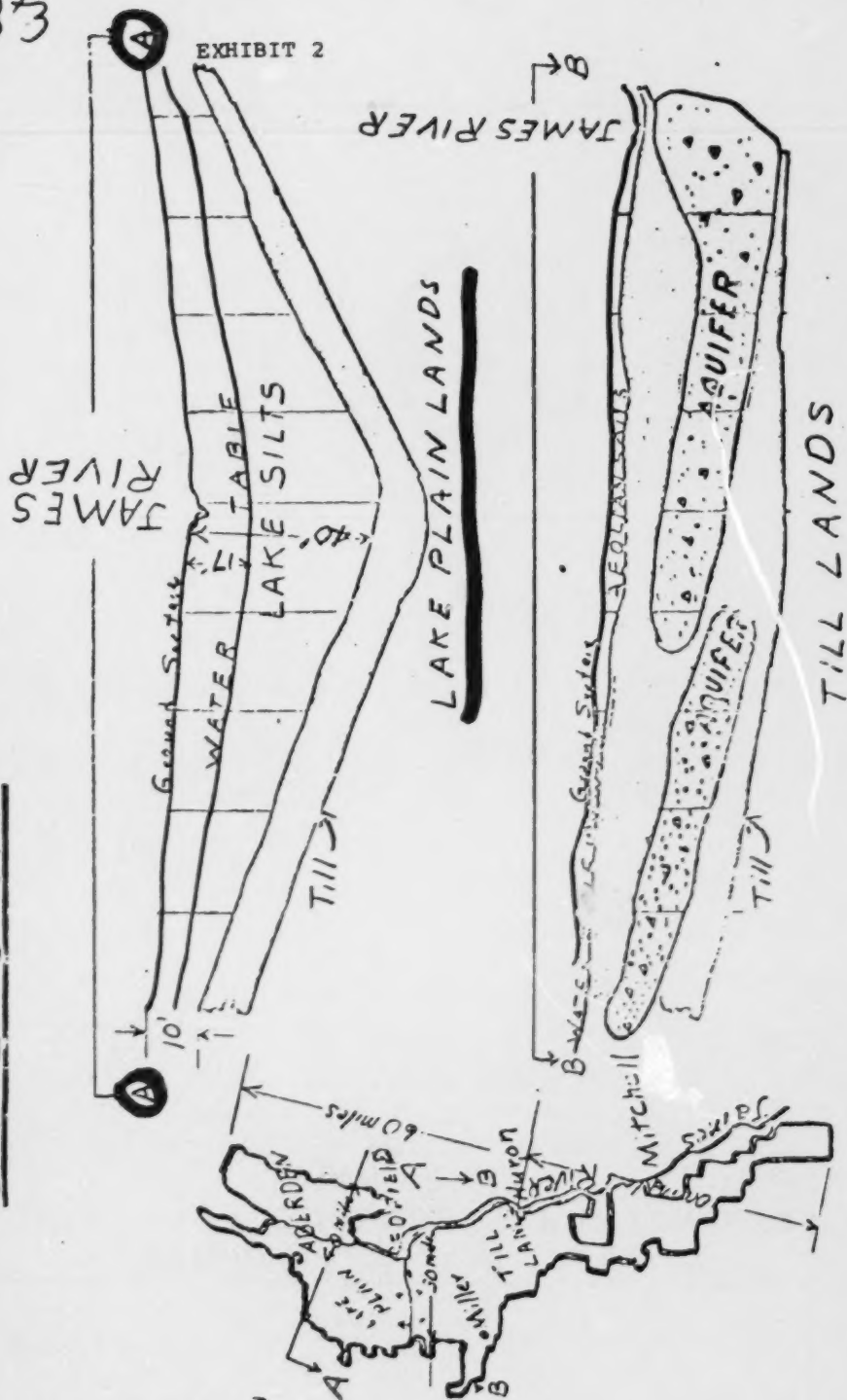
One reason is pressure from local boosters to build projects which are not very good ones. Such pressures may come from Chambers of Commerce, influential individuals, politicians, or almost any entity or individual. On such shady projects, cost estimates must be kept down if feasibility is to be demonstrated. While these boosters may be sincere, they will go almost any length to make their pet project look good and have Congress appropriate money to build it. They are not trying to have us build a marginal project; they just don't understand the possible consequences. Such local pressures can be tremendous, and sometimes people have been blind to potential drainage problems that grew to be very serious after the project was built and irrigation started.

Only the exceedingly determined and conscientious efforts of Bureau administrators and drainage engineers have prevented serious and distasteful sociological and financial problems which would have been caused had some projects been built as proposed. Others slipped through for one reason or another, and we have to live with the problems and try to find logical solutions for them. Usually, the physical problems can be handled, but the difficulty of finding the money needed causes real trouble. I can assure you that the administrators and drainage people of the Bureau are doing their utmost to keep you out of trouble in this regard. I believe no projects will be built in this area unless drainage receives full consideration as to the physical problems, the potential productivity of the land, and the cost of irrigating and draining it properly.

The other major reason why I believe serious drainage problems have not always been foreseen is the slow evolution of technical know how. The mistakes of the past were never deliberate. They came about first because it was not known how to recognize drainage problems and later because of lack of knowledge of how to handle them and a reluctance to spend money learning how. It has been and is difficult to make farmers or irrigation districts agree to spend real money for drainage, and their judgment or wishful thought that no drainage is required or that it will not be worth the cost has usually not been right. In essence, however, progress has been due more to an evolution in theories and techniques and in demonstrating what drainage can do than it has been due to individual beliefs. The Bureau had fine engineers developing its earlier projects before and during the Second World War, but they were not drainage engineers. There were probably not over four or five experienced ones in the whole United States at that time. So, things that look obvious to us today got missed.

1883

OAHE UNIT



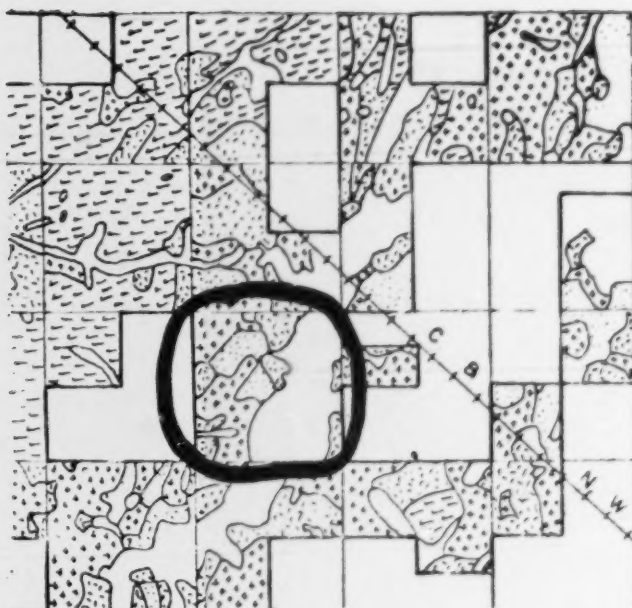


EXHIBIT 3

EXPLANATION

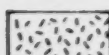
Arable land



Class 1

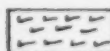


Class 2



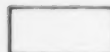
Class 3

Potentially arable



Class 5

Nonarable



Class 6

--- 10' silt line

— Irrigation district boundary

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
MISSOURI RIVER BASIN PROJECT
JAMES DIVISION - S. DAK.
Oahe Unit
GENERAL LAND CLASSIFICATION MAP
INITIAL STAGE DEVELOPMENT

DRAWN... C.M.B. ... SUBMITTED...

TRACED... C.M.B. ... RECOMMENDED...

CHECKED... APPROVED...

HURON, S. DAK. SHEET

3-25-65
3 OF 4

469 - 602 - 4158

Sec 22 T 122 N R 63 W

LAND CLASS ACREAGE SUMMARY							
CLASS	1	2	3	ARABLE	6	ROW	TOTAL
NENE			6	6	37.4	2.0	40.0
NWNE	1.1		30.6	31.7	7.3	1.0	40.0
SWNE	2.5		13.6	17.1	23.9		40.0
SENE			3.9	3.9	35.1	1.0	40.0
NENW	17.8	13.7	4.2	35.2	3.8	1.0	40.0
NWNW	1.2	36.3		31.5		2.5	40.0
SWNW	13.2	13.6	11.7	38.5		1.5	40.0
SENW	25.4	13.9	1.2	40.0			40.0
NESW	13.9	17.8		31.7	8.3		40.0
NWSW		30.5	8.0	38.5		1.5	40.0
SWSW		13.3	21.1	34.9		5.6	40.0
SESW		17.3		17.3	20.8	1.9	40.0
NESE			2.9	2.9	36.1	1.0	40.0
NWSE	3.0		1.7	4.7	35.3		40.0
SWSE					37.9	2.1	40.0
SESE			14.5	14.5	29.5	2.0	40.0
TOTAL	70.6	105.9	114.0	340.5	268.4	22.1	640.0

EXHIBIT 3A

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
MISSOURI RIVER BASIN PROJECT
JAMES DIVISION - S. DAK.

O A H E UNIT
DETAILED LAND CLASSIFICATION

CLASSIFIED _____ SUBMITTED _____
TRACED _____ RECOMMENDED _____
CHECKED _____ APPROVED _____

HURON, S. DAK

469-602-4050

Senator MURKOWSKI. Thank you, Mr. Seaton, for that very interesting testimony. And I would certainly agree and warn our committee not to back into the glue pot. That's no assurance that they won't, however.

Mr. SEATON. I was afraid of that.

Senator MURKOWSKI. The next and last—excuse me, the next to the last witness, Mr. Glenn Overby of Mellette. Mr. Overby?

STATEMENT OF GLENN OVERBY, MELLETTE, S. DAK.

Mr. OVERBY. Thank you, Senator Murkowski. I farm in Spink County, and I farm some land that's in the initial stage of the Oahe project, and my farm will be served with WEB.

I also own another set of farm buildings that are empty at this time because there is no water. And I have signed that up to the WEB program and hoping that it will have water and will have somebody living in it in the future.

I was a director representing rural Spink County on the Oahe Conservancy Subdistrict Board for 4 years. I was an advisory member of the State board of water and natural resources for 4 years; a member of the South Dakota Oahe task force for 2 years.

And on Senate bill 1553, I guess I will have to be against it, not because it's for WEB but because of section 3 as it relates to the Oahe contracts.

This would terminate the contracts, but would not terminate the Oahe features.

I, too, have a letter which I will enclose. My testimony will be sent in later on, and I will enclose a copy of a letter from the Interior that answers my questions that Senate bill 1553 will not deauthorize necessarily any of the present Oahe structures.

I think most people in South Dakota would like to see water development, but we would like to see water development that will be beneficial and that will work for us.

I would like to spend just a little time talking about drainage today. Drainage of the Oahe project. I will be quoting from speeches and testimony given by drainage engineers—

Senator MURKOWSKI. If you could summarize that material, we would appreciate it.

Mr. OVERBY. Yes, I will, sir. I have quite a little bit here, and I will summarize briefly.

But one of the bureau of engineers describes drainage as "removal of excess water and excess salts from the lands." You notice it says "salts" along with water.

All lands have some salts. Some of them are leached out pretty good, and some of them are not. Irrigation water has salt. And this drainage expert says, "drainage is needed not only on irrigation lands but nearby it."

And that probably 15 percent of your added water must percolate down through the drains to keep it from salting.

I have testified on the Oahe project that it will be 20 percent. Perhaps the salinity of our soil.

He made the statement that with good drainage, even the worst farmer couldn't very well ruin good land, but with poor drainage, the best farmer cannot be successful.

Sooner or later salts or groundwater, or both, will reach the surface. Now, this may happen in 2 years or 20 years. So it isn't something that shows up immediately.

It was also reported that between the years of 1930 and 1940 in the United States, that 1 million acres of irrigated land were abandoned, not because there wasn't water, but because of salinization. Also, in 1960, the U.S. Salinity Lab reported that in the 17 Western States that 28 percent of irrigated land was affected by improper drainage.

Now, this is something that we want to avoid. I think most of the drainage experts agree that a water table should be maintained at least 4 feet below the soil surface. The consulting board of Arrow & Gates in 1954 checked the drainage on the Oahe project mentioned earlier. They agreed that a 4-foot table should be met.

And in the report given them by the chief engineer from the Bureau, the formula was used for drain spacing, and there were 17 values in the very technical formula, and 17 factors as the values of Oahe were permitted to come up with drain spacing of 183 feet.

Now, this is perfect drainage. The report says that this would not be economic nor necessary, and they suggested an average drainage space of 360 feet and 9 feet deep.

Now, these consultants didn't quite agree, and in their conclusions they each varied their formula input. Mr. Iacus came up with 330 foot drainage space. Mr. Jacobs, 225; and Mr. Harding 240. And they recommended that due to seepage of the canal in the project area, that there be additional drains along the laterals to protect the land.

Now, the Bureau of Reclamation did not follow these conclusions.

Now, the city of Aberdeen is in a low area, and the project officials felt that they would be protected by drains.

Senator MURKOWSKI. Mr. Overby, would you please finalize your summary.

Mr. OVERBY. OK. Nonproject lands would have drainage. But there are 2,440 miles of leased drains in the project. If you figure these out according to 620-foot spacing which is recommended by the Bureau in their costs, that would use all those drains and there will not be extra drains to protect nonproject land or Aberdeen.

So due to the fact that there is not enough drainage projected for this project and due to the types of the soils and the unevenness of the permeability, which would make management hard, I would request that the features of the Oahe authorization that would build the Oahe project be terminated before the contract's out.

Thank you.

[The prepared statement of Mr. Overby follows:]

SENATE SUBCOMMITTEE ON WATER AND POWER

Hearing on S. 1553

Pierre, South Dakota September 12, 1981

Members of the Committee and Mr. Chairman, I am Glenn Overby from Mellette, South Dakota. I farm in Spink County in the Initial Stage Oahe Project area. My farm will be served by WEB if it is constructed. I served as rural director for Spink County on the Oahe Conservancy Sub District Board for four years from 1977-1980, as an advisory member of the South Dakota Board of Natural Resources for four years and as a member of the South Dakota Oahe Task Force for two years.

I am here to testify on S 1553 today. Section 3 of this legislation addresses the cancellation of the Master, Participating and Security contracts of the Oahe Project. There have been a number of schemes to circumvent local control and local boards and continue the construction of the Initial Stage Oahe Project. I received a letter from the United States Department of the Interior Bureau of Reclamation this week in regard to questions on S. 1553. Copy attached. It stated in part "We do not believe the bill as written would remove any features from the existing Oahe Unit authorization." With the contracts terminated this could be another scheme to get around local control and local opposition to build a project that is not good and is not wanted. New contracts could be negotiated without local input and many of the objectionable features of the old Oahe Project built. It is therefore necessary that the objectionable features be deauthorized before the contracts are terminated. The Spink County Irrigation District passed a resolution by unanimous vote at a recent meeting supporting this process.

The project area is very flat which leaves it without adequate surface drainage. The Bureau of Reclamation reports about a 10 foot difference of elevation in 50 miles. Many of the soils have low permeability and water stands in low areas for considerable time after heavy rains or spring snow melt. Several pictures attached. The area is the old Dakota Lake. The prehistoric lake was formed as the last glacier retreated to the north. The lake plain has a saline soil in much of the area as low precipitation, about 19 inches per year, and low permeability of soils do not allow the salts from the old lake to leach very fast.

One of the reasons why Oahe should be deauthorized is that drainage of this very flat area with soils which are saline and have low permeability will be very difficult and expensive at best and without adequate drainage the project will fail.

G. R. Maierhofer, Chief, Office of Drainage and Ground-water Engineering, Office of Chief Engineer, Bureau of Reclamation, Denver, Colorado, talked on Drainage of Reclamation Lands at the 15th annual convention of the Upper Missouri Water Users Association in Billings, Montana January 24-25, 1963. Maierhofer said the definition of drainage is "the removal of excess water and excess salt from agricultural lands" He further pointed out that salt must be dissolved in water and then the water must be removed. Drainage is not only needed on irrigated lands but on nearby lands that require drainage because of nearby irrigation. Drainage is an important way to maintain land. With good drainage even the worst farmer cannot very well ruin good land. With poor drainage the best farmer cannot be successful. Sooner or later salts or ground water, or both, will reach the surface zone of the soil where the plants grow. This may take 2 years or 20- sometimes longer. The Oahe Unit was used as an illustration for drainage problems with deep soils above almost impermeable glacial tills, with a water table before irrigation. The river is not entrenched, the land is almost flat, and the water table will rise with irrigation. Drainage will be possible but expensive. Closely spaced deep parallel tile drains will be needed. At another meeting Maierhofer reported that older civilizations declined and were abandoned because their irrigation failed because of improper drainage. Between 1930 and 1940 1,000,000 acres of irrigated land in the United States was abandoned because of waterlogging and salinity. One of the problems of subsurface drainage is seepage from canals. Probably the most damaging problem the irrigators have is that the root zone is too shallow because the water table is too high. If you are not an expert you may never see it but crop production will be down. A minimum depth of four feet may be safe but five or six feet is better and will increase production.

Ralph Toren testified under oath in United States District Court trial of United Family Farmers vs Department of Interior in 1974. Mr. Toren is an engineer from Wright Water Engineers, Inc. of Denver, Colorado. Mr. Toren's testimony was mostly on the Environmental Impact Statement of the Oahe Project. Several of the points which he brought out in regard to drainage are-

Salinization and waterlogging is a major problem in irrigation projects. According to the director of the U. S. Salinity Laboratory in 1960 crop growth was adversely affected in 28% of all irrigated land in the 17 western states.

It is necessary to have leaching water to carry the salts down to natural or man made subsurface drains or salinization of soils will occur

The water table should be kept at least four feet below the ground surface.

There is a capillary fringe area for at least 18 inches above the water table where the soil is 80% saturated and the soluble salts will move upward.

Some of the soils in the project area have a low specific yield (capacity to hold and release water) and one inch of added water can raise the water table in the soil as much as 25 inches.

Using the Bureau of Reclamations formula for drain spacing if drain tiles are 805 feet apart to maintain a minimum water table of 3 feet a 4 foot minimum would require 660 foot spacing and a 5 foot minimum would require a 770 foot spacing of the drain tile. (this shows a big difference in cost if the water table is allowed to come closer to the surface)

There would be 45,830 acre feet of seepage each year from the canals and laterals in the project area to irrigate 125,000 acres. There are no drains planned to take care of this seepage.

Three consultants S. T. Harding, J. R. Iakisch and C. E. Jacob were engaged by the Bureau of Reclamation to review drainage information on the Oahe Project lands. Recommendations were made for canal seepage and for subsurface tile drain spacings. These recommendations were not followed by the Bureau.

The flat area makes it necessary to have a number of relief points in the drains. The number was probably understated. The open drains have little drop or slant and will have slow velocity of about 0.5 feet per second this will promote aquatic growth and weed growth which will reduce the capacity and raise the water level which will create more seepage.

Subsurface drains would be from 6 to 12 feet deep. The 6 foot drains would be too close to the surface to give the land proper protection.

The subsurface drains placed at the proposed spacing of a 620 foot average would not keep the water table low enough to prevent salting and waterlogging of the soils. Non project lands near the canals and near irrigated ^{lands} would not be protected from salting and waterlogging.

The Oahe Conservancy Sub District held a hearing on Soils and Drainage on the Oahe Project, March 7, 1977.

Allen Talbot testified on his experience as a farmer in the Riverton, Wyoming Irrigation Project, Third Division. Talbot was a Irrigation District Board member and Water User Committee member for twelve years.

Talbot explained that drainage is necessary for an irrigation project to succeed. It is an accepted fact by irrigation experts that to maintain soils with good quality irrigation water at least 15% of the water must go down through the soil to counteract capillary action, evaporation and plant use as these uses bring water to the surface and none take away salt. Mr. Winger, Bureau of Reclamation drainage engineer, had testified under oath that the Oahe project plans were for 20%.

Alkali and salt was a big problem in the Riverton project. Water added to the alkali sealed off the soil and when deep tile drains were added it did not relieve the problem. In about three years one half of those who had homesteaded on the third division had new units on other projects. Most of the rest left later. About 10 or 15 per cent are left.

Talbot had seepage water about one foot deep on land that was never irrigated. There were homesteads where seepage later formed Ocean Lake. This Lake is now forty to fortyfive feet *deep* and covers about three sections. (another person estimated its size at about six thousand acres)

All irrigation water contains some salt. Most soil contain some salt which is lowered by leaching over periods of time. When irrigation water is added and used by plants and evaporation the salts remain. Much land is ruined by not using enough water to flush the salts into subsurface drains. If not flushed they accumulate near the surface.

After the project had been operating several years some of the lands were reclassified by the Bureau.

Talbot urged those in the Oahe Project to make sure the drainage was feasible technically and cost wise. Land classification is another area that should be correct.

In 1954 the Bureau of Reclamation wanted a further check on soils and drainage and their projections on the Oahe Project area. A consulting board of S. T. Harding, J. R. Iakisch, and C. E. Jacob made the evaluation and wrote a 60 page report on Drainability of Lands in the Oahe Unit of the Missouri River Basin Project.

Some comments on the report are-

The need for drainage under irrigation might not become apparent for several years after an irrigation water supply has been made available to these lands.

General experience supports the conclusion that a minimum depth of ground water table 4 feet below the ground surface will provide adequate depth of drained soil for deep rooted crops. Smaller depths to ground water restrict root growth and crop production.

There is a salt concentration at the usual depth of rainfall penetration. Downward moisture movement below this depth has not been sufficient to leach such salts to greater depths.

There are several factors which affect the spacing of subsurface relief drains. The main ones are the amount of water to be removed, soil permeability, the specific yield, depth of material the water moves through and time between irrigations or rain.

The March 1953 drainage appendix on Oahe stated soils with permeabilities in the 0.30 to 0.40 inches per hour range are difficult to drain. All subsoils in the Oahe Unit have permeabilities within or below this range.

The specific yield is the amount of water released by the unwatering of saturated soils. The Lake Flain soils have very fine pore spaces and yield water slowly and in small amounts.

The relief drains should be 9 feet deep.

A report of the Chief Engineer's Office of the Bureau of Reclamation on average subsurface drain spacing is furnished the consultants. A drain spacing of 183 feet is derived from a BOR formula with seven factors using local values. This would be theoretically perfect drainage which the report states is neither economical nor necessary and that wider spacing would be applicable to the Oahe Unit. A spacing of 360 feet 9 feet deep was selected.

The conclusions of the consultant board are-

Till lands not underlain by an aquifer are not susceptible of drainage by practicable means and that irrigated agriculture on such lands could not be sustained.

Till lands underlain by an aquifer could not be drained by tiles as the depth of weathering is too shallow and permeability is too small.

Lake Plain Soils could have adequate drainage with tile drains to remove ground water accretions from deliveries, A system of collecting drains to remove the discharge of the tile drains, additional drains to remove percolation from the main canals and laterals within the irrigated area and a complete system of surface drains extending to each farm unit to remove surface run-off and wastes and unwater potholes. Drainage of lake plain silts of less than 10 feet should not be undertaken.

The consultants did not agree on the exact average drain spacing. Each using his own judgment on some factors recommended different spacings. Mr. Iakisch 330 feet- Mr Jacob 225 feet and Mr. Harding 240 feet.

The Environmental Protection Agency has commented on the Oahe Unit Water Quality Modeling Study.

The E P A is concerned on several issues. One is the water table which the B O R reports to be approximately 18 feet below the ground surface now. Although 190,000 acres are to be irrigated the subsurface drains will average about 9 feet. E P A expects that there will be a considerable water movement away from irrigated areas until much of the Lake Plain water table will be close to the 9 foot depth. This could influence 350,000 acres. E P A is also concerned that collector drains near the distribution laterals are not mentioned in the final EIS. This could cause water logging of land not protected by project drains.

The project area has several variations of soils and land classes. The differences of permeability and soil classes in the same field makes management difficult at best. The same amount of water delivered by center pivot or other means will not bring the same results to soils with different permeabilities. The soils of higher permeability would flush salts out by leaching while the low permeability soil could have an increase in salt content because more water is evaporated and less percolates through the root zone. This could take a number of years before it is noticeable. Using average permeability of the soils will not work. That would be like having one foot in boiling water and one in the deep freeze and saying on the average my feet are the right temperature.

A project needs a favorable cost benefit ratio to be authorized by congress. Before it was authorized Oahe was getting close to an unfavorable cost benefit ratio.

Drainage for Oahe will be expensive. In 1960 the Ultimate Stage drain cost was \$221,910,000 or \$498.67 per acre. In 1965 the drain cost was \$100,223,000 or \$225.22 per acre. What made the drains cost go down over 50%. The drain spacing was changed from 330 feet or less to 620 feet and the water table was allowed to come within 3 feet from the surface instead of 4. (illustration attached)

Soil classification by Bureau reports from 1960 to 1965 show about 40% class 1 land 42% class 2 and 18% class 3. The 1971 and 1976 reports show a decrease in class 1 to about 29% A little increase in class 2 to about 37% and a big increase in class 3 to 34%. Class three land is usually harder to drain. This should require closer drain spacing for the project.

The change of drain spacing and water table depth is directly opposed to the recommendations of the Consultant Board. The Board also recommended more drains along delivery canals.

The city of Aberdeen is built in a low area. The Bureau reports that Aberdeen and other towns will be protected from seepage by drains. The non project land is to be protected by perimeter drains and land next to canals will be protected.

I have not seen these drains listed as project features or any costs listed for them as project costs.

Mr. Winger, drainage engineer for Oahe, testified under oath that there were no drains (toe drains) for the canals.

House Document 163, page 21 reports that drainage might be required for interspersed lands. It may cost as much as \$6,000,000. The costs are not included as project costs.

There are 2440 miles of relief drains figured as project costs. The average drain spacing in the project is 620 feet.

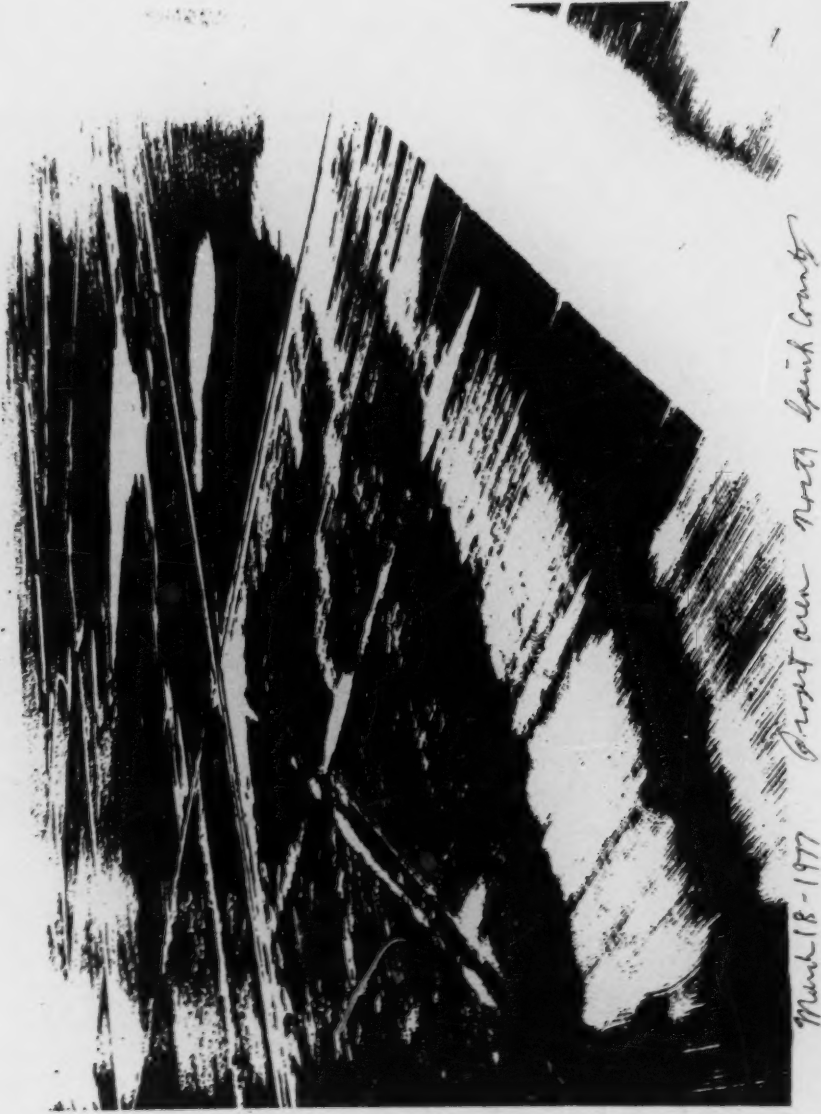
620 feet is 37.5757 rods

37.5757 rods a mile long is 75.15 acres

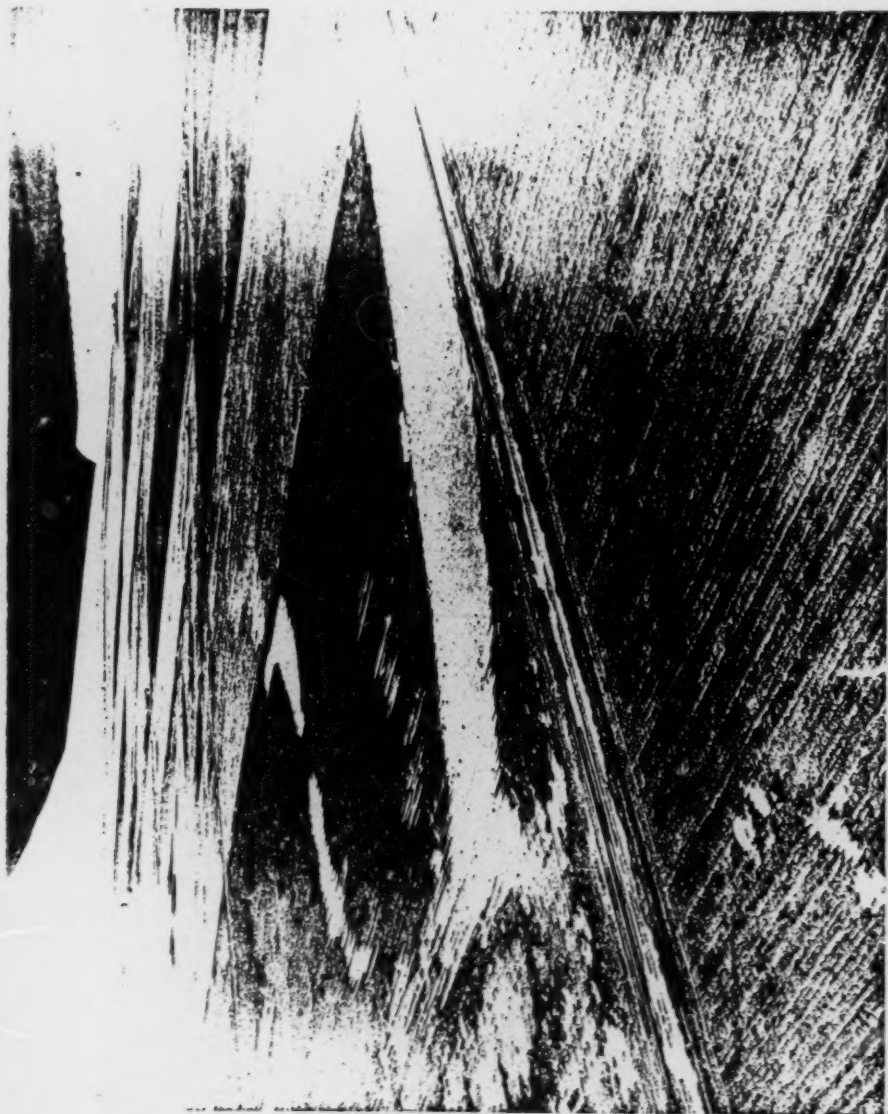
2440 miles times 75.15 is 183,369 acres

Therefore the 2440 miles of relief drain are all used for the 180,000 acres to be irrigated.

I feel that the drainage planned for the Oahe Project would not be adequate to guarantee continued irrigation and adjacent lands would be adversely affected. Without adequate drainage any irrigation project will fail. I therefore request that the Initial Stage Oahe Project be deauthorized before the contracts are terminated.



March 18-1977 Forest on Mt. Spink County

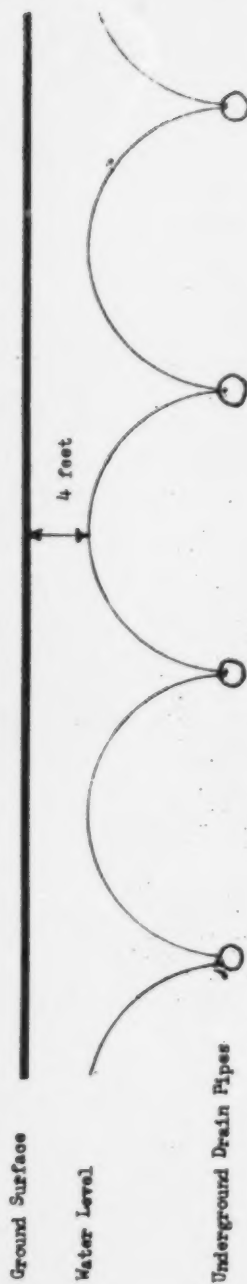


March 13-1977 - Joplin area ~~the~~ North Lincoln County

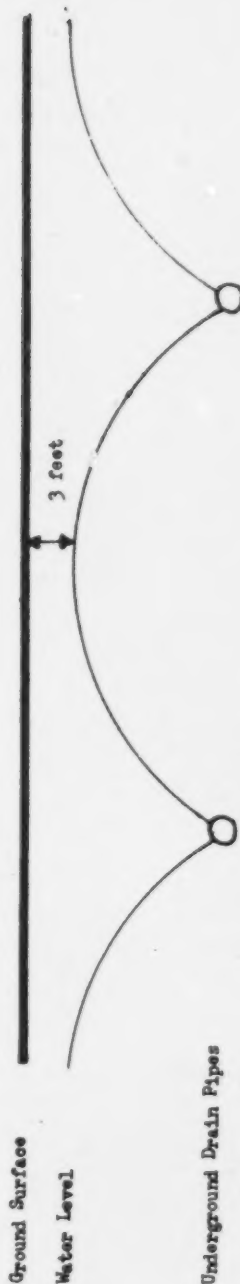


March 18-1977 - Grosset and Nichols Land Co.

LAND PROFILE ILLUSTRATING UNDER GROUND DRAIN PIPES AND SOIL WATER LEVEL



Expert drainage engineers advised the Bureau to space drains at an average distance of 225 ft. - 330 ft. to keep water level at a minimum of 4 ft. below the ground surface midway between drains.



The Bureau chose a plan for drainage based on an average spacing of 620 ft. which would allow the ground water level to rise to 3 ft. below the ground surface.



United States Department of the Interior

BUREAU OF RECLAMATION
WATER AND POWER RESOURCES SERVICE

WASHINGTON, D.C. 20240

IN REPLY
REFER TO: 735
832.

SEP 3 1981

Mr. Glenn Overby
Mellette, SD 57461

Dear Mr. Overby:

This is in response to your letter of August 23 to Secretary Watt requesting our interpretation of Section 3(b) of Senate Bill 1553 relative to its effect on the authority to construct certain features of the Oahe Unit in South Dakota.

Since S. 1553 is still under review and the Administration has taken no position on the bill, we can only give you our informal opinion relative to section 3(b) at this time. We do not believe the bill as written would necessarily remove any features from the existing Oahe Unit authorization. In our opinion, determination of the specific features on which construction would be forbidden by section 3(b), because their only use would be to deliver water to the West Brown and Spink Irrigation District, should depend on the outcome of the studies to be authorized by section 2 of the bill.

We regret that we are unable to be more specific at this time. However, we appreciate knowing your views.

Sincerely yours,

Aldon D. Nielsen
Acting Assistant
Commissioner

Senator MURKOWSKI. Thank you for your testimony, Mr. Overby. We appreciate it.

The last witness is Mr. Clarence Erickson. You have, I think, some distinction. We welcome you, sir, and I don't mean to imply that the distinction is your being the last witness by any means. With that, I would ask for your testimony.

STATEMENT OF CLARENCE ERIKSON, FARMER, GROTON, S. DAK.

Mr. ERIKSON. Thank you, Mr. Chairman. The patience of this committee has certainly been astounding. And kind of being the last witness here, there is really not an awful lot to say, so I will struggle with what I have.

My name is Clarence Erickson. I farm near Stratford, S. Dak., in Brown County. I have land in the West Brown Irrigation District of the Oahe unit. I also serve as director on our local REA Board.

In making decisions on Senate bill 1553, one of the most important areas Congress should look at is the proposed method for funding these water projects.

The Oahe project was authorized in 1968 under the assumption that over 87 percent of the cost assigned to irrigation would be repaid by the Missouri River Basin Power revenues. Based on January 1977 prices, Oahe would cost \$537 million.

Of that, \$460 million was allocated to irrigation, and \$427 million, or 92 percent was supposed to be repaid by power. In April of this year, the Bureau of Reclamation estimated that Oahe would cost \$913 million. If you use the same percentage as 1977, power users would pay \$724 million of that cost, or about 96 percent of irrigation costs.

As you can see, the way it's set up, those who irrigate pay less and less each year as project costs go up.

Project water would be pumped at the low rate of 2.5 mills per kilowatt-hour. Currently Northern Electric Cooperative pays 4.64 mills per kilowatt-hour for hydropower. If you add in the power lost due to diverting Oahe waters, the Oahe irrigation project actually would have been getting pumping power at about 1 mill per kilowatt-hour—or about 22 to 50 percent of what it's really worth.

One question that needs to be resolved is the Missouri River Basin Power account's ability to pay for these water projects. A 1978 audit raised serious questions about the soundness of the program and its ability to repay its own costs, let alone millions or billions of dollars in irrigation costs.

The audit stated:

The financial posture of Pick-Sloan is at best based on an uncertainty and at worst it is based on unreality.

It further said:

The prospects for accumulation of power revenue for financial assistance to irrigation features are so remote in time as to have the practical effect of precluding their authorization and development now or in the foreseeable future.

Independent reviews estimate that irrigators pay back less than 3 cents on every dollar of public money spent on their projects.

One argument for delaying deauthorization of the Oahe project is that power rates will go up. I challenge that statement. The 1978 audit did not support that, nor did a May 1977 letter from the Interior Department, which states in part:

If Oahe is deauthorized, repayment of the reimbursable costs would, of course, not be required. Therefore, it is expected that the consumer electric bill would be reduced in the long term.

In short, if you don't build Oahe and incur a \$900 million debt, power rates won't have to pay it off. It would be cheaper to pay off what is owed on the dam and charge it off to Oahe.

Power rates for REA's are going up now because of the increase in demand and the need to buy more and more coal generated power. A 90-percent subsidy of irrigation construction by power users is an unreasonable subsidy, especially when we have more production than we can sell now, and the prices are low. It also could weaken the Missouri basin repayment program.

I would recommend that the Congress consider deauthorizing the Oahe unit and waiving repayment of the mainstem dam construction charged off to Oahe in the same manner proposed by Senator Abourezk in 1978. This would remove the concern that power rates will increase, and it would avoid a \$900 million long-term obligation to power users. I feel that amendment should be made to Senate bill 1553.

In closing, as a farmer, taxpayer, and power user, and one who could irrigate from Oahe if the project were built, I feel the entire Pick-Sloan Missouri basin program repayment status should be reviewed before any additional projects are authorized by Congress.

Thank you.

[The prepared statement of Mr. Erickson follows:]

TESTIMONY PRESENTED TO THE
U.S. SENATE SUBCOMMITTEE ON WATER AND POWER
September 12, 1981
PRESENTED BY
CLARENCE ERICKSON, R.R. , GROTON, S.D. 57445

Mr. Chairman, members of the Subcommittee. My name is Clarence Erickson. I farm, with my two sons, near Stratford, South Dakota in Brown County. I have land in the West Brown Irrigation District which would receive irrigation water from the Oahe Unit Irrigation Project if it were constructed. I also serve as a Director on our local REA coop, the Northern Electric Cooperative, which serves about one-half of the proposed Oahe irrigation project area in Brown and Spink Counties.

The question before this Committee, and the U.S. States Congress as a whole, is (1) whether or not the Oahe Unit Irrigation Project as currently authorized should be deauthorized, and (2) what other studies or water projects should be authorized in place of, or, as SB 1553 states, "in lieu of Oahe". In making that decision the

one important area which I feel this Committee and the Congress should take a closer look at is the proposed method of repayment of the cost of these projects. The Oahe Unit was authorized in 1968 under the assumption that over 80% of the construction cost would be repaid by Missouri River Basin power rates, and that project water would be pumped with hydro-power at the low rate of 2.5 mills per kilowatt-hour. Section 2, item 4-b of Senate Bill 1553 proposes to continue that benefit to other water projects that might be authorized for study or construction under this act. The question is, is the Missouri River Basin Program a sound source of finance for the Oahe Unit and the other projects proposed to be financed through it, and is the authorized power rate of 2.5 mills realistic. I feel that a review of the record will show (1) that serious questions have been raised about the fiscal soundness and payment capability of the Missouri River Basin account, (2) the authorized rate of 2.5 mills for pumping power for irrigation is unrealistic, and (3) as presently authorized if the Oahe Unit Irrigation Project were constructed

Missouri River Basin power users would be "subsidizing" the bulk of the cost of the project. On that basis alone, as a farmer, taxpayer, and power user, I would recommend that Congress deauthorize the Oahe Unit Irrigation Project.

Before any additional water projects are authorized by Congress based on low power rates or construction subsidy from the Missouri River Basin power account, I feel the entire Pick-Sloan Missouri Basin Program repayment status should be reviewed. The following testimony will support that position.

WHAT SB-1553 ATTEMPTS TO PRESERVE

The Oahe Unit Irrigation Project was authorized by Congress in 1968 with four specific financial benefits related to the Missouri River Basin Program.

1. The project was authorized to receive 99.2 million kilowatt-hours of electricity annually at 2.5 mills per kilowatt-hour for pumping project water. (BOR fact sheet, 1976, pg. 20)
2. Approximately 143.0 million kilowatt-hours of electric energy generation would be lost each year because water diverted for the Oahe projects use. (BOR fact sheet, 1976, pg. 20)
3. About 84% of the Oahe Unit project costs directly related to irrigation was to be paid by Missouri River Basin power users.
4. A total of \$43 million dollars in main-stem storage and power systems costs have been assigned to the Oahe Project to be repaid without interest. (BOR fact sheet, 1976, pg. 20)

South Dakotan's, and Missouri River Basin power users, have been told that if the Oahe Irrigation Project were deauthorized power rates would go up.

Low Cost Power

First of all, the 2.5 mills per kilowatt-hour, authorized in 1968 for Oahe Unit, is unrealistic. Presently, the same power has a much higher commercial value. For example, Northern Electric Cooperative pays 4.64 mills per kilowatt-hour for hydro-power it currently receives. It would have even a higher value on the open market, or if compared with rates charged for alternate energy.

Secondly, if you add in the 143.0 million kilowatt-hours of power loss, along with the 99.2 million kilowatt-hours used, the Oahe Irrigation project was actually getting power at a rate of 1.0 mills

per kilowatt-hour, or about 22 to 50 per cent of what it is really worth. ($99.2 \text{ mkh} \times 2.5 = \$2,480,000 \div 242.2 \text{ mkh} = 1.0 \text{ mills per kh}$)
(For reference see attachments # 1 and #2)

Hydro-Subsidy of Construction

The share of Oahe Unit construction costs assigned to hydro-power for repayment continued to increase over the years, while the share of cost schedule to be repaid by irrigators remained the same. The result was, that every year power users were schedule to repay more and more of the project costs.

The Oahe Unit was authorized in 1968 by Congress based on House Document #163, at a total cost of \$246,230,000. Of that amount 87% or \$205,790,000 in cost was allocated or charged against irrigation. Of that \$205,790,000 cost assigned to irrigation, \$172,350,000, or 83%, was to have been repaid by Missouri River Basin power users. Only \$33,440,000, or 16.2%, was to be repaid by irrigators. (For reference see House Document #163, page 6 -- Attachment 3)

Since the time the project was authorized, the total cost of the project has obviously increased, but the irrigators share of repayment has remained the same, at \$33,440,000, and the power users share has increased considerably. The 1981 Project Data Sheets published by the Bureau of Reclamation show that based on January 1, 1977 prices and costs, the total cost of the Oahe Project would be \$537,590,000. Of that amount \$460,457,000, or 85.7% of the cost was allocated to irrigation. Of that \$460,457,000 irrigation cost, \$427,017,000, or 92.7% is schedule to be repaid by Missouri River Basin power users. The remaining \$33,440,000, or 7.3%, would be repaid by irrigators with help from Oahe Conservancy Sub-district tax payers. (Attachment 3A)

Total cost of the Oahe Project has not be index or updated since January 1, 1977, so the exact present day cost allocations are not know. However, in April, 1981 the Commissioner of the Bureau of Reclamation informed members of the Congressional Delegation that the estimated total cost of Oahe Unit was \$913,000,000. At that rate, about \$758,000,000 in cost could be allocated to irrigation (83%), and under present authorization Missouri River Basin power revenues would be expected to pay about \$724,560,000 of the cost or about 96%, with irrigators repaying \$33,440,000 or about 4%.

As you can see, under the present authorization, those who benefit continue to pay less and less, while power picks up more of the cost.

Missouri River Basin Program's Ability To Pay

The one item that is not addressed in SB 1553 is the Missouri River Basin Program's ability to repay the cost of irrigation projects assigned to it.

In 1978 an audit of the Missouri River Basin Program was completed by the U.S. Department of Interior, which raised serious questions about the soundness of the program and it's ability to repay it's own operation, repayment, and interest costs, let alone incurring additional repayment responsibility. The report entitled "Review of Repayment Status of the Pick-Sloan Missouri Basin Program and Individually Authorized Projects - July, 1978", points out that the Missouri River Basin program is managed in such a way that repayment of construction cost assigned to future irrigation development is being delayed indefinitely. In addition, the portion of costs of irrigation projects like Oahe, assigned to be repayed by Missouri River Power revenues, will extend power rates into the distant future beyond the schedule estimated for repayment, and may result in increased power rates. The report states the following; (attachment # 4)

"...the current assumptions are unrealistic and do not provide a reliable basis for either measuring the project's financial position or determining the rates to charge for power and M&I water." (page 1)

"...multipurpose and power construction and operation and maintenance (O&M) costs of currently existing facilities are allocated to....future irrigation development. The result of this procedure is to increase the aid to irrigation, which is interest-free. Such an allocation also leads to distortion of current annual O&M costs because it causes a significant amount (\$1.9 million in the 15-month period ending Sept. 30, 1976) of the Corps annual O&M expense to be classified as nonreimbursable. It also....reduces funds returned to the Treasury, by what we believe to be a substantial amount to date. Our conclusion is that the financial posture of Pick-Sloan is, at best, based on an uncertainty. At worst it is based on unreality. The net effect is that no one knows,...what rates to charge power users and M&I water users to repay Pick-Sloan costs." (pages 7 & 8) (emphasis added)

In reviewing the history of the Pick-Sloan, Missouri River Basin account, the audit found that if these unrealistic repayment and allocation methods were not followed....."the prospects for accumulation of power revenues for financial assistance to irrigation

features are so remote in time as to have the practical effect of precluding their authorization and development now or in the foreseeable future."
(page 5, exhibit II) (emphasis added)

An independent review of the Missouri Basin Program, entitled "Accounting and Repayment Provisions of the Pick-Sloan Missouri Basin Program", published in February, 1981 by Mr. Bruce Johnson, Professor of Agricultural Economics, University of Nebraska, confirms that the program is in trouble (see attachment #5). In summary it states;

With regard to irrigation "the direct repayment to the Federal Treasury would actually be less than 10 % percent of the annualized cost of the public investment. The Federal irrigation subsidy exceeds by nearly 10 times, the actual dollar repayment made by irrigators and power users. In fact, irrigators the primary recipients of project benefits, are obligated to repay at a rate of less than \$0.03 on every dollar of public expenditure. The point is clear--any inference that the direct beneficiaries of Federal irrigation development are making more than token repayment borders on fraud." (page 132) (emphasis added)

With regard to power repaying it's costs, the review states..... "In the case of the Pick-Sloan Missouri Basin Program, the public subsidy of hydroelectric power is estimated to be \$2 for every \$1 of repayment." (page 129)

"Power Rates Will Go Up If Oahe Is Deauthorized "

For several years now it has been an accepted fact that local support was lacking for construction of the Oahe Unit Irrigation Project as authorized. One argument made for delaying deauthorization of the project was that if Oahe Unit were deauthorized, power rates would go up. The theory behind this statement, advocated by East River Electric, and supported by the Bureau of Reclamation, is that if Oahe is not constructed \$46 million in main-stem dam construction costs assigned to the project without interest, would have to be repaid by power users with interest.

I challenge the statement that Missouri River Basin power users would pay more if Oahe Unit were deauthorized. The 1978 Interior audit states; (attachment # 4)

"...Upper Missouri Region officials have said that elimination of the Oahe irrigation unit alone would require an increase in power rates, because of the need to reallocate irrigation costs back to power and other purposes; but we did not verify that. As shown above, the Oahe unit is a small part of the total future irrigation development foreseen in the Bureau's repayment analyses." (page 17)

Further, a May 27, 1977 Department of Interior letter on this question, also confirmed that deauthorization of Oahe would not increase power rates greatly, and would in fact in the long run reduce power rates; (see attachment #6)

"In the event the Garrison and Oahe were to be deauthorized, it is expected that costs to Reclamation (power, customers would increase by approximately 23% (10.5% for Garrison and 12.5% for Oahe) or about \$8.8 million annually. This would amount to a 1.1 mill increase over the present P-SMBP rate of 6.2 mills per kwh. Alternative power costs are in the neighborhood of 11 mills per kwh."

"In accordance with Reclamation law, power revenues are applied first to repayment of annual operation and maintenance expenses, purchase power, and interest costs. After scheduled repayment of the commercial power investment is completed, surplus power revenues will be used to assist repayment of the irrigation investment beyond the irrigators ability to pay... In the case of the Oahe Unit, this would amount to \$407,953,000 of the \$472,282,000 in reimbursable Federal costs. If these projects are deauthorized, repayment of the bulk of the reimbursable costs...would, of course, not be required. Therefore, is it expected that the consumer electric bills would be reduced in the long-term..."

Put simply, if you deauthorize the \$913 million dollar Oahe Project the Pick-Sloan Missouri River Basin account does not accumulate a \$700 million dollar plus long term obligation. Any while account may have to repay \$46 million plus interest, it most certainly would be less obligation than \$700 million dollars plus for Oahe.

Conclusion

Rural Electric Coop's, and other power users in the Missouri River Basin area, are recognizing increases in power rates, mostly because the demand for power is increasing and we are forced to

buy more and more coal and oil generated power. The removal of 242.2 million kilowatt hours of available power by the Oahe Unit Irrigation project or any other water project will not improve the situation. In that sense we are subsidizing irrigation for a few, at cost to many.

Secondly, if Missouri River Basin power revenues are expected to pay upwards of 90% of the construction costs of these projects again you have a situation where a few are receiving a tremendous subsidy at a cost to many.

Third, if you add on the fact that these same few irrigators are to receive hydro-electric power at about 22 to 50 per cent of the reasonable value, you again have a situation where a few are being subsidized at the expense of the community in general.

What you have is power users through out the Missouri River Basin, many of them farmers, subsidizing irrigation through their power bills so a few can irrigate and raise more, add to total farm production of the region, and further reduce farm prices. On top of that, it appears the entire process would further weaken an already questionable Pick-Sloan repayment program. It makes no sense at all.

Recommendation

There are obviously a number of policy questions involved in the question of Oahe deauthorization and Senate Bill 1553, as they relate to the Missouri River Basin Program. I certainly don't claim to have the answers. But as a concerned taxpayer, farmer, and power user, I would suggest that this Subcommittee and Congress consider deauthorizing the Oahe Unit Irrigation Project and waiving the payment of main-stem dam construction costs much in the same manner as was proposed by former South Dakota Senator James Abourezk in legislation he proposed in 1978 to deauthorize Oahe Unit; (attachment #7)

"Sec. 3 Those funds previously expended pursuant to authorities contained in the Act of August 3, 1968 (Public Law 90-453, 82 Stat. 624), shall be charged against the general Treasury of the United States and shall not be charged against the Pick-Sloan Missouri Basin Program." (SB 3292, Congressional Record, July 13, 1978, page S-10689)

This would remove any concern that power rates would have to increase if Oahe was deauthorized. While the federal taxpayer would assume the cost of the main-stem dams charged off to Oahe, they would be avoiding the future obligation of some 90% of the projects eventual cost, which most certainly would exceed \$700 million dollars.

On a personal note, even though I have land that would be irrigated if the Oahe Project as authorized were constructed, I support deauthorization of the project. The project does not have local support in my area. It would result in the average water table over the Lake Plain area rising from the current level of about 17 feet to within 3 feet of the soil surface. This would result in much of the productive land in the Lake Plain area being lost to seepage and waterlogging.

In my own case, my brother and I have three tracts of land in the Oahe project area which total 557.8 acres. Of that amount, the Bureau of Reclamation shows 305.3 acres as irrigable, either class #1, #2, or #3. A total of 238.7 acres are classified as non-irrigable, either class 5S or 6 lands. On tract # 1 (see attachment #8) only 17.5 acres of the 237 acres is irrigable. In tract #2 (see attachment #9) only 72.2 acres of the 160 acres are irrigable. And in tract # 3 (see attachment #10) 149.2 acres of the 160 acres are irrigable. The point is, it would be infeasible to try to irrigate the small parcels of irrigable land in tracts # 1 and #2, and yet those acres are considered in the Bureau of Reclamation's estimates for the initial stage Oahe Unit, and if the project were constructed I would have to pay for those acres. The West Brown Irrigation District currently taxes the entire tracts of land even though only a small acreage on tracts # 1 and #2 are irrigable. Beyond that, I have farmed tract # 3 (attachment #10) for a number of years. The Bureau has classified the center of that quarter as class 3S irrigable. But I know that area of the land to be "gumbo" soils, difficult to farm and even harder to drain. I caused me to have serious reservations about the Bureau's soils studies. I think they classified or re-classified lands so that they would have enough irrigable soils to get the project authorized. The risk and the payment would rest with the landowner and farmer, who would have live with the project and try to make it work.

ATTACHMENT 1

Electric Power Uses and Generation

	Million kilowatt-hours
Estimated average annual electric energy needed to pump project water (includes drains) - Oahe Unit	99.2
Reduced generation of electric energy resulting from water diversion for Oahe Unit	<u>143.0</u>
Total	242.2

This will reduce the annual amount of salable energy from the Eastern Division of the Missouri River Basin Power System by about 2.5 percent. Salable energy from the Eastern Division in 1973 totaled about 9.7 billion kilowatt-hours.

The use of water and power was included in the earliest planning of the Pick-Sloan Missouri Basin Program. The Initial Stage of Oahe Unit has been assigned \$19,357,000 from the main-stem storage system construction costs plus \$23,292,000 from the main-stem power system construction costs. (These costs are often added together, rounded, and referred to as \$43 million assigned construction costs. The assigned interest during construction costs totals \$1,934,000 and \$1,428,000, respectively.) Assigned costs are sometimes referred to as totaling about \$46 million. These costs are included as a part of the total costs of the Initial Stage of Oahe Unit.

The Pick-Sloan Missouri Basin Program provides that excess revenues from the power system will be used to assist with repayment of costs allocated to irrigation for all Federal Reclamation projects that are authorized as a part of the Pick-Sloan Program including the Oahe Unit. The excess revenues will be available to assist with irrigation repayment after the main-stem reservoir costs allocated to power and all specific power facility costs are repaid, with interest, to the United States Treasury during their 50-year repayment period.

Since repayment of costs allocated to irrigation would not be made until after repayment of the power investment and by law the costs allocated to irrigation are interest free, irrigation repayment does not have any effect on power rates. However, if the Oahe Unit were not constructed, the \$46 million assigned costs would probably be reallocated to the power system and would need to be repaid within the 50-year repayment period with interest which in turn would necessitate an increase in the power rate.

"Information Sheets- Oahe Unit,
published by the Bureau of
Reclamation; Sept. 1976

ATTACHMENT 2

House Document # 163, 90th Congress, 1st Session,
Aug. 31, 1967

124 OAHE UNIT, MISSOURI RIVER BASIN PROJECT, SOUTH DAKOTA

Operation, maintenance, and replacement costs

Criteria and unit-cost data for estimating the annual O.M. & R. costs for the Oahe unit are generally based on experience with similar facilities on operating irrigation projects, adjusted to local wage and salary rates and equipment usage rates. Costs are based on the average prices that prevailed during 1963 or were considered appropriate for that year.

There are two items of cost associated with the Oahe unit which are higher than usually anticipated on irrigated projects. One is the cost of power for pumping, and the other is the operation and maintenance cost of the drainage system.

All water for use in the Missouri slope and the west lake plain will be pumped through the Oahe pumping plant at Oahe Reservoir. Water for use in the east lake plain will come from Oahe Reservoir through the Oahe pumping plant and from natural and return flows pumped from the James River through the James pumping plant. In addition to the Oahe and James pumping plants, there will be three major pumping plants in the main canal system, 301 relift pumping plants for distribution of irrigation water, 128 small single-unit pumping plants in the closed drainage system, and three relift pumping plants in the open drainage system.

Energy for pumping will be available at the low-voltage side of the Missouri River Basin Project Transmission Division substations at a rate of $2\frac{1}{2}$ mills per kilowatt-hour. Power for pumping will be delivered to most of the pumping plants over electrical facilities constructed as a part of Oahe unit. Transmission division substations will be located at the sites of the larger pumping plants.

Design criteria for successful drainage of Oahe unit established a complex system of open drains and closed pipe drains for removal of excess water from irrigated land. There will be a total of 1,863 miles of open drains and 8,090 miles of closed pipe drains to be operated and maintained as part of the project works.

O.M. & R. costs for pumping plants and electrical distribution facilities have been estimated separately. The replacement costs have been computed on a $3\frac{1}{2}$ percent sinking-fund basis. Other replacement costs are included in costs shown for material, supplies, and equipment, and are considered as regular operation and maintenance costs.

Table 3 summarizes the estimated joint-use O.M. & R. costs for full development of Oahe unit.

The costs shown in table 3, together with specific costs for fish and wildlife enhancement, constitute total O.M. & R. costs to be used in the economic analysis of the multipurpose Oahe unit. These annual costs have been allocated to the various purposes as follows:

Purpose:	Annual O.M. & R. costs
Irrigation.....	\$3, 171, 700
Municipal and industrial water.....	90, 800
Recreation.....	15, 100
Fish and wildlife enhancement.....	115, 100
Flood control.....	14, 500
Total.....	3, 407, 200
Allocated irrigation O.M. & R. costs per acre.....	6. 41

ATTACHMENT 3

House Document # 163, 90th Congress, 1st Session,
Aug. 31, 1967

6 OAHE UNIT, MISSOURI RIVER BASIN PROJECT, SOUTH DAKOTA

REPAYMENT ARRANGEMENT

Purpose	Reimbursable costs			Total
	MRBP power revenues	Water users and conservancy subdistrict	Non-Federal participants	
Irrigation.....	\$172,350,000	\$33,440,000	.....	\$205,790,000
M. & I. water.....	.....	¹ 11,858,000	.....	11,858,000
MRBP power.....	² 2,949,000	.....	.....	2,949,000
Fish and wildlife:	.....	.....	.....	.....
Joint.....	.....	.....	.....	.....
Specific.....	.....	.....	³ 674,000	674,000
Recreation:	.....	.....	.....	.....
Joint.....	.....	.....	.....	.....
Specific.....	.....	.....	⁴ 326,000	326,000
Total.....	175,299,000	45,298,000	1,000,000	221,597,000
Less interest during construction.....	.....	.....	.....	756,000
Total.....	.....	.....	.....	220,841,000

¹ Includes \$534,000 reimbursable interest during construction.

² Includes \$174,000 reimbursable interest during construction.

³ Includes \$41,000 reimbursable interest during construction.

⁴ Includes \$7,000 reimbursable interest during construction.

UNIT LAND

The irrigable acreages by land classes and areas are:

(In acres)

Land	West lake plain	East lake plain	Total
Class 1.....	53,500	22,500	76,000
Class 2.....	48,700	31,300	80,000
Class 3.....	22,800	11,200	34,000
Total.....	125,000	65,000	190,000

Average frost-free period.....	135 days.
Average annual precipitation.....	19 in.
Elevation of irrigable lands (above mean sea level).....	1,295 to 1,310 ft.
Average farm delivery water requirement.....	1.6 acre-ft. per acre.

WATER SUPPLY AND REQUIREMENTS

Water supply for Oahe unit would come from Oahe Reservoir on the Missouri River, from natural flows of James River, and from irrigation return flows carried by James River. On an average annual basis, the water supply and requirements would be as follows:

Supply:	Item	Acre-feet
Pumped from Oahe Reservoir.....		408,400
Return flows carried by James River.....		104,800
Natural flows of James River.....		50,700
Total.....		563,900
Requirements for irrigation:		
Irrigation farm delivery.....		285,800
Conveyance losses and wastes.....		188,200
Reservoir evaporation.....		43,500
Subtotal.....		517,500

PROJECT DATA SHEET - 3
Pick-Sloan Missouri Basin Program
Oahe Unit, South Dakota

Footnotes:

- 1/ Initial water and stage coordination dates will be rescheduled if/when construction is resumed. A 24-year construction program will be required to construct this project.
- 2/ No change from FY 1981 Budget justification. Total estimated costs and benefits reflect prices as of January 1977 and will be indexed to current status if construction is resumed. The ratios were computed by using the authorized interest rate of 3.25 percent.
- 3/ Includes assigned costs of \$19,357,000 for main-stem storage, \$22,968,000 for interest-free power investment for pumping power, and reimbursable interest during construction of \$1,202,000 on municipal and industrial water, \$95,000 for fish and wildlife enhancement, and \$18,000 for recreation.
- 4/ Future capacity provides for enlargement of Oahe Pumping Plant to accommodate future increase in pumping capacity. Allocation and repayment of these costs will be delayed until the development materializes.
- 5/ Includes nonreimbursable fish and wildlife, \$29,149,000; recreation, \$5,102,000 under Public Law 93-251; flood control, \$2,759,000; and construction of highways to higher standards under Public Law 87-874, \$3,890,000.
- 6/ Combined repayment by irrigators includes collections from irrigation water users, contributions from Oahe Conservancy Sub-District, and miscellaneous revenues derived from the sale of water to irrigators during the predevelopment period as a water rental charge.
- 7/ Master Contract No. 14-06-600-10,079 provides for payment by irrigators.
- 8/ The amount to be repaid by power is covered within the present Pick-Sloan Missouri Basin Program power rate schedule.
- 9/ Contracts for repayment of this amount have not been signed. Original authorization cited 17 towns as likely prospects for MBI water and was permissive for additional towns. Nine towns have requested feasibility studies to determine their need for water from the unit. One town (Cresbard) has withdrawn their request for MBI feasibility study.
- 10/ Three-party contract No. 14-06-600-302A; Oahe Conservancy Sub-District, South Dakota Department of Game, Fish, and Parks, and the United States.
- 11/ The appropriations authorized are \$490,590,000 (January 1977). The authorization is adequate to cover this project as currently proposed.

WP-245

Audit: Pick-Sloan

Aberdeen (S.D.) American News Mon., May 14, 1979 7

poorly managed

By JIM AUCOIN

Sunday Lincoln Journal and Star

LINCOLN, Neb. (AP) — A strongly worded Department of Interior audit statement says the Missouri River Basin's Pick-Sloan power and irrigation program is so poorly managed there's no way to tell what its financial condition is or whether its unbuilt dam projects are feasible, the Sunday Lincoln Journal and Star reported.

According to the audit, the U.S. Treasury is losing millions of dollars in interest because of the way costs are allocated within the program, the Lincoln newspaper reported Sunday in a copyright story.

Some irrigation projects may have been shown financially feasible only by using an accounting procedure which allows the costs of existing projects to be transferred to future ones, the audit says.

In the 10 months since the previously unpublicized audit was done by Interior's Office of Audit and Investigation, it apparently has received little at-

and several other flood control dams on Missouri River tributaries.

Revenues from Pick-Sloan hydroelectric power plants are expected to pay for the projects as well as for more than 75 percent of several irrigation projects, including the proposed North Loup and O'Neill Unit (Norden Dam) in Nebraska. By the year 2078, federal investment should reach \$5.8 billion, based on 1978 estimates.

Critics, including Deputy Assistant Secretary of Interior Daniel Beard, argue that the repayment period, which has grown to about 150 years, is being expanded unreasonably.

The Bureau of Reclamation — a division of the Interior Department — agreed that problems exist, but says it doesn't have authority to change the management scheme and a reorganization would be too broad and complex to undertake.

tention from Congress or the agencies responsible for Pick Sloan.

Regional Bureau of Reclamation Director Joe Hall, in an interview Friday from his Denver office, said he disagreed with the report, saying the management procedures were developed openly and were approved by Congress.

He described the audit as "oversimplified."

"I don't agree with it, but I guess he (the auditor) has a right to say it," Hall said.

The Bureau of Reclamation and the U.S. Army Corps of Engineers jointly are building and operating the Pick-Sloan system. The bureau handles most of the power sales and the rates are set by the Department of Energy.

As of 1978, U.S. taxpayers had \$2.5 billion invested in Pick-Sloan, which was authorized by Congress 35 years ago to build the mainstream dams on the Missouri River, including Gavins Point (Lewis and Clark Reservoir) bordering Nebraska on the north,

731

UNITED STATES
DEPARTMENT OF THE INTERIOR

OFFICE OF AUDIT AND INVESTIGATION

REVIEW OF
REPAYMENT STATUS OF
PICK-SLOAN MISSOURI BASIN PROGRAM AND
INDIVIDUALLY AUTHORIZED PROJECTS
BUREAU OF RECLAMATION



JULY 1978

OPTIONAL FORM NO. 10
JULY 1973 EDITION
GSA FPMR (41 CFR) 101-11.6

UNITED STATES GOVERNMENT

Memorandum

TO : Assistant Secretary—Land and Water Resources

DATE: July 19, 1978

FROM : Acting Director of Audit and Investigation

SUBJECT: Audit Report, "Review of Repayment Status of Pick-Sloan Missouri Basin Program and Individually Authorized Projects, Bureau of Reclamation"

The enclosed report concludes that basic changes in methodology for financial management of Pick-Sloan are essential. Absent these, we believe that the Department of the Interior, the Department of Energy, and the Congress will never have adequate information on which to judge the actual operating results, repayment potential, or the feasibility of authorizing or reauthorizing additional development of Pick-Sloan.

The principal point advanced in the report is that the project's financial posture is based on a concept of "ultimate development" and repayment extending well into the 22nd century. Because many of the project components, particularly its irrigation features, have not been authorized and may never be built, we conclude that current assumptions are unrealistic and do not provide a reliable basis for either measuring the project's financial position or determining the rates to charge for power and M&I water. We also raise questions relating to (1) some of the analytical techniques currently used with the concept of ultimate development in calculating the project's ability to repay the Federal investment, and (2) the viability of the power repayment study as a basic financial management tool.

We are recommending a complete reassessment of this project to provide a more realistic basis for making financial decisions. Initially, this will involve development of new assumptions concerning the project features to be built and the anticipated time frames involved. Repayment analyses should be based on much shorter time spans than those used under the "ultimate development" concept.

A draft of this report was furnished to the Bureau of Reclamation. While the Bureau agreed that reassessment was needed, it commented that the massive reassessment we have in mind would be premature and fruitless if undertaken now. The Bureau cited the numerous uncertainties surrounding the project and the difficulties involved in performing the reassessment.

The Bureau of Reclamation believes that a first step is to seek the Solicitor's views on what, if any, legal impediments are involved in addressing some of the recommendations. A May 22, 1978 memorandum from

Existing studies for the System include investments in power generating facilities (and credits for expected revenues from these facilities) not yet authorized but projected to be constructed in the years 2016-2030; irrigation investment through the end of the 21st century (and associated aid to irrigation of \$3.1 billion), much of which is not authorized for construction, and repayment of which is projected for completion about midpoint of the 22nd century.

Irrigation development envisioned in the repayment studies is in its infancy. Much of it is not "authorized," and there are obvious questions as to whether it ever will be in the terms reflected in the repayment studies. Notwithstanding that fact, multipurpose and power construction and operation and maintenance (O&M) costs of currently existing facilities are allocated to this future irrigation development. The result of this procedure is to increase the aid to irrigation, which is interest-free. Such an allocation also leads to distortion of current annual O&M costs because it causes a significant amount (\$1.9 million in the 15-month period ending September 30, 1976) of Corps annual O&M expenses to be classified as nonreimbursable expenditures. It also reduces the interest and repayment requirements on the power function, lowers current power revenue requirements, and reduces funds returned to the Treasury, by what we believe to be a substantial amount to date.

Our conclusion is that the financial posture of Pick-Sloan is, at best, based on an uncertainty. At worst, it is based on an unreality. The net effect is that no one knows, within reasonable limits of accuracy,

what rates to charge power users and M&I water users to repay Pick-Sloan costs. To remedy this condition, the entire Pick-Sloan needs to be reassessed in terms of what facilities will be built and in what time frames. This may be costly and time consuming and it will require input and cooperation from the Corps of Engineers and DOE.

We have made no attempt to estimate the financial impact of any assumption concerning future development. But, in general, among the impacts would be the following:

(1) Any assumptions that eliminated future irrigation construction features or any assumption that reduced the time frame for Pick-Sloan development would make the allocations and suballocations of existing facility costs to these future facilities (those not to be constructed or those outside the time frame) inappropriate. These existing facility costs would have to be reallocated to other Pick-Sloan features, principally power, and thus would increase the construction and O&M obligation of power and M&I water users.

(2) On the other hand, elimination of irrigation facilities from Pick-Sloan assumptions would eliminate any direct irrigation subsidy related to these features and would increase the amount of commercial power available for sale (because less power would be needed for irrigation pumping).

We see one other pertinent consideration. The perceptions of the early sixties were based on the power rates and power demands then existing. However, conditions have changed drastically. All available power can

In the absence of analyses comparing results under ultimate and current development conditions, and revised cost allocations of (1) so-called "assigned costs" of existing facilities to future development, and (2) suballocations of power investment to irrigation, we cannot estimate with any degree of certainty what the indicated power revenue requirements would be by implementing the Department's current development repayment policy. Upper Missouri Region officials have said that elimination of the Oahe irrigation unit alone would require an increase in power rates, because of the need to reallocate irrigation costs back to power and other purposes; but we did not verify that. As shown above, the Oahe unit is a small part of the total future irrigation development foreseen in the Bureau's repayment analyses. It should be noted that Bureau power rates in Pick-Sloan are substantially below the cost of wholesale thermal power produced by many Pick-Sloan customers.

At the time of our review there were no plans to change from the ultimate development method in preparing the Pick-Sloan 1977 repayment study. We are recommending that simulations, using the current development concepts specified in 730 DM 4, or reasonable alternatives to ultimate development, be prepared to provide more realistic information on the financial status of Pick-Sloan.

Bureau's 1963 Garrison Study and subsequent changes in Pick-Sloan

Because it is very basic to an understanding of the history leading to existing Bureau policies in Pick-Sloan, we have included the 1963 study in its entirety as appendix I.

A further explanation of the legislative purpose was contained in the statement entitled "Need for Section 4(b) of S. 34" furnished by Assistant Secretary Holum subsequent to the hearings and inserted in the published Senate hearing on pages 41-42. "Garrison Diversion Unit, Missouri River Basin project: Hearing on S. 34 before the Subcommittee on Irrigation and Reclamation of the Senate Committee on Interior and Insular Affairs", 89th Cong., 1st Sess. (March 29, 1965). This statement explains that if the legislative change in the interest rate is not obtained, then "the prospects for accumulation of power revenues for financial assistance to irrigation features are so remote in time as to have the practical effect of precluding their authorization and development now or in the foreseeable future." This in turn, the statement notes, raises the question of what to do with approximately \$240 million of costs of the existing storage and power system allocated to future irrigation use. Part of these are so-called "assigned costs" of storage; the remainder are the costs allocated to irrigation pumping which are the subject of the present inquiry. The statement specifically asks the question of what to do with these costs if the lower interest rate is not approved. One alternative is to write them off "as a national mistake". The other alternative, equally undesirable, "would be to reallocate the costs of the main-stem system to reflect the reduced role of irrigation." (This is exactly what would be done by changing from an "ultimate use" basis of suballocation to a "current use" basis.) The statement commented that this "would have the effect of increasing the present commercial power investment such that it would be difficult to meet operation and maintenance costs and interest charges."

All of the above references support a readily discernible congressional purpose through the change in interest rate to reduce interest costs on the investment in Army facilities allocated to commercial power as shown in the Secretary's report, thereby making additional revenues available to assist in repaying future irrigation development. Yet the proposal on which my opinion has been requested would directly defeat this purpose. The change from an ultimate use to a current use basis would reduce the suballocation to irrigation pumping from 19 percent to approximately 3 percent. This single change would eliminate virtually the entire saving in interest expense authorized by section 4(b) of the Garrison Act and would negate the congressional policy to treat the project as a whole for cost allocation and repayment purposes. It may not be effectuated without prior congressional approval.

This conclusion is not a new one. In March 1968 the Comptroller General submitted to Congress a report entitled "Need for Change in Method of Computing the Cost of Power Sold for Commercial Purposes Missouri River Basin Project" in which he specifically recommended



American Water Resources Association

Water Resources Bulletin

FEBRUARY 1981

ACCOUNTING AND REPAYMENT PROVISIONS OF THE
PICK-SLOAN MISSOURI BASIN PROGRAM¹Bruce B. Johnson²

ABSTRACT: The accounting and repayment practices employed by the Water and Power Resources Service (WPRS) greatly distort the actual resource allocation process and the ultimate repayment to the Federal Treasury. Through a series of transfers of capital repayment obligations to future development with modest or no interest charges, the repayment is reduced to only a fraction of the amount implied. In the case of the Pick-Sloan Missouri Basin Program, the public subsidy of hydroelectric power is estimated to be \$2 for every \$1 of repayment. For irrigation investment, the direct repayment to the Federal Treasury is less than 10 percent of the annualized cost of the public investment, with irrigators repaying at a rate of less than \$0.03 for every dollar of public expenditure.

KEY TERMS: accounting, repayment, water projects, Pick-Sloan.)

INTRODUCTION

A 1978 study by the U.S. Department of Interior's Office of Audit and Investigation was highly critical of the accounting and repayment practices used by their sister agency, the Water and Power Resources Service (formerly the Bureau of Reclamation). In discussing the water development programs involving power generation and irrigation facilities, numerous concerns regarding payback provisions were raised. Referring specifically to the Pick-Sloan Missouri Basin Program the report stated:

"The financial posture of Pick-Sloan is, at best, based on an uncertainty. At worst, it is based on an unreality" (Office of Audit and Investigation, 1978, p. 7).

It concluded that the current financial management is totally inadequate for multibillion dollar investments of this type.

Earlier studies have also been critical of the accounting framework used by the Water and Power Resources Service (WPRS). Nearly three decades ago, the Missouri Basin Survey Commission concluded that improvements were needed in the financial and accounting practices associated with large scale resource development programs (Missouri Basin Survey Commission, 1953, p. 21).

More recently, North and Neely (1977) have discussed the evolution of water resource projects from single purpose to multiple objectives which has led to the dispersal of water project benefits across a growing body of interests in both the

public and private sectors. The result, according to these authors, has been the development of a series of enormously complex and inconsistent cost sharing arrangements.

Several current issues imply the need to evaluate the present accounting framework in greater detail. First, the apparent repayment of public investment in numerous proposed irrigation projects, authorized and unauthorized, is one factor. A major portion of Federal Treasury monies allocated to such projects is supposedly repaid from hydroelectric power revenues generated by the total water development program. The relative merits of such irrigation project proposals may well be enhanced since the policy maker and the constituency he/she represents tend to view the Federal outlay more as a loan than as a direct subsidy. The statement of repayment provisions is clearly communicated to Congress in deliberations for initial project authorization and in all subsequent budget requests. Typically, a total repayment schedule of irrigation investment is presented with a specified portion allocated to the irrigators and the remainder to power revenues (for example, see WPRS, pg. 1).

A second issue adding impetus to such a review is the current state of energy resources. With various energy supplies becoming increasingly scarce and costly, the efficient allocation and marketing of hydroelectric power from public water projects becomes increasingly important (Young, 1978). Realistic pricing of such power, reflecting associated costs, is crucial to effective management.

Finally, the contemporary mood for greater fiscal accountability within the public sector would suggest the need for more thorough understanding and general agreement with regard to the allocation of public revenues for water development programs. As noted by Libby (1978) there is increasing pressure for systematic measurement of economic performance of natural resource programs.

The purpose of this paper is to focus on accounting provisions historically practiced by government agencies in multipurpose water development programs involving the generation of hydroelectric power. More specifically, the power repayment schedule for the Pick-Sloan Missouri Basin Program will

¹ Paper No. 80126 of the *Water Resources Bulletin*. Discussions are open until October 1, 1981.

² Associate Professor of Ag. Economics, Dept. of Agricultural Economics, 309 Filley Hall, University of Nebraska, Lincoln, Nebraska 68583.

be discussed. Key economic implications arising from this accounting framework will then be presented.

THE PICK-SLOAN MISSOURI BASIN PLAN

The Pick-Sloan Plan is a multiple purpose water resource development under cooperation of the federal government and the Missouri basin states. It consists of about 150 divisions and units serving flood control, irrigation, hydroelectric power production, navigation and other purposes along the main stem and the tributaries of the Missouri River. The area within the basin encompasses about one-fifth of the conterminous United States.

Authority for this development program is found in several Federal legislative acts since 1938. The most prominent is the Flood Control Act of 1944 in which the general comprehensive plans of development were set forth, and the initial stages approved and authorized.

The actual development of the Pick-Sloan system has been the major responsibility of the U.S. Army Corps of Engineers (Department of Defense) and the Water and Power Resources Service (Department of the Interior). Since October 1977, the Department of Energy has assumed the responsibility for transmission and marketing of commercial hydroelectric power. Prior to that time, this was the responsibility of the WPRS.

While plans for the completed system involve some 150 divisions and units, the system is far from the final stage of development. Most of the planned power generation facilities are currently in operation, while the majority of the proposed irrigation facilities are yet to be built. In fact, some of the planned irrigation development is scheduled for construction in the latter part of the 21st century. Obviously, projects planned for a century from now are not "authorized" by Congress, and a high degree of uncertainty must be attached.

According to the recent auditor's report, the cumulative Federal investment in the Pick-Sloan System was over \$2.4 billion in 1976, of which nearly \$2.0 billion was allocated to functions that are expected to repay those costs through power, irrigation, and municipal and industrial water revenues (Office of Audit and Investigation, 1978, pp. 3-4). By the year 2078, the expected investment in reimbursable functions repayable from power revenues is \$5.8 billion. Of this amount, 54 percent is classified as aid to irrigation. At that point, the unpaid investment is expected to be \$1.3 billion. Nearly all of this unpaid portion will be irrigation assistance. Repayment is scheduled for completion by the year 2152.

THE FINANCIAL MANAGEMENT SCHEME

Current Guidelines and Practices

The criteria for repaying the Federal investment in the Pick-Sloan program have never been clearly and comprehensively expressed by the Congress. Rather, guidelines have evolved through a series of legislative acts.

The use of power revenues to repay irrigation costs, a key element of the program, is as old as the authority to sell power from the Federal reclamation projects (Missouri Basin Survey Commission, 1953). In 1906, Congress directed that revenues derived from power sales should be transferred to the reclamation fund and placed as credit of the project from which power is derived. Under the Flood Control Act of 1944, which instituted the Pick-Sloan Program, this policy was enacted, but with the provision that the whole river basin be managed as a single project account. The intent of Congress apparently was the use of net power revenues to meet other reimbursable costs beyond the ability of the irrigation water users to repay; although the method of implementation was unclear. Subsequent development of the repayment schedule took place in 1963 in a financial plan submitted as an appendix to the Garrison Unit proposal. This plan, which followed a period of increasing financial difficulties for the Pick-Sloan program, became the standing policy with the authorization of the Garrison Unit.

The general scheme for repayment of the Pick-Sloan system is as follows:

- Power revenues will repay the investment in power generation and transmission facilities, including replacements, within 50 years after completion of the specific power facility. The investment is to be repaid with interest (3 percent).
- Power revenues will repay a portion of irrigation facilities investment without interest. For irrigation units not under construction or operation prior to 1965, the repayment period is defined as 40 years plus a development period of up to 10 years after the irrigation facility becomes benefit producing.
- Users of municipal and industrial water are required to repay the investment allocation with interest.
- Federal investment in other purposes, such as navigation, flood control, recreation, fish and wildlife, and roads, is not considered reimbursable.

Of key importance is the provision for repayment of the major portion of irrigation development from power revenues. WPRS estimates that power revenues will repay in excess of 80 percent of the total cost allocated to these facilities. Under these guidelines, the power from the system is to be marketed at the lowest possible rates so as to encourage widespread use, and still be consistent with sound business principles (Office of Audit and Investigation, 1978).

Inherent Problems

Two aspects of the repayment scheme are suspect in terms of sound business principles: 1) the use of an "ultimate development" repayment period and the associated transferability of interest bearing to noninterest bearing repayment obligations; and 2) the employment of low interest charges on the interest bearing repayment obligations.

The "ultimate development" concept implies the repayment schedule is not itemized on a unit by unit basis. No complete repayment schedule is associated with each facility. Rather, portions of a specific capital investment may be

accounted to future projected development many years hence. In fact, repayment of the Pick-Sloan Program is currently projected well into the 22nd century. In other words, a significant portion of repayment may be delayed indefinitely, if not permanently.

To illustrate, consider the following. A facility is constructed largely for power generation. However, it is assumed that irrigation facilities yet to be built will use some power; therefore, part of the power investment is suballocated to irrigation pumping power. The payback to the Federal treasury of this portion is therefore delayed until the irrigation unit is developed. As pointed out by the 1978 auditor's report of the Pick-Sloan system, this suballocation within the ultimate development time frame can substantially affect repayment—especially since the bulk of irrigation facilities are scheduled to come "on line" between the years, 2001 and 2077. Given the standard 50-year repayment period on irrigation facilities with no interest charged, the portion of power revenues allocated to future irrigation pumping needs is an interest free obligation with payment of principal not completed until the year 2137. Thus, in terms of repayment to the Federal treasury, this obligation is virtually nullified. Even at a discount rate of 9 percent, the present worth of \$1.00 due 50 years from today is only \$0.01.

Of the capital investment in projects generating hydroelectric power in the Pick-Sloan system, about 17 percent has been suballocated to future irrigation development on the premise that this portion of the power will be required to deliver irrigation water to the proposed projects. Currently, this suballocation of existing federal investment exceeds \$170 million.

The same assumption regarding ultimate development is used to assign to irrigation a portion of annual operating and maintenance (O&M) expenses of on-line power facilities, even though these expenses may not be related to any current irrigation operations. In turn, this portion is classified by the repayment structure as totally nonreimbursable and will never be repaid to the Federal treasury.

For reasons argued historically by economists, the rate charged on interest bearing obligations should theoretically represent the opportunity cost of keeping money in the private sector. As stated by Baumol (1970) use of a lower discount rate results in the misallocation of resources between the private and the public sectors. The maximum interest rate of 3 percent employed in the Pick-Sloan account is certainly far below that of the private sector. Consequently, the time repayment to the Federal Treasury is a fraction of the stated amount.

SUMMARY AND IMPLICATIONS

The ultimate repayment to the Federal treasury of part of the frontloaded public investment in water development is an established principle. Those components, which generate tangible returns to definable elements of the population, are generally classified as reimbursable. These features directly

enter into the political calculus of public decisionmaking. However, as suggested by this analysis of the Pick-Sloan system, the terms "reimbursable" and "repayment" imply meaning quite different from conventional financing nomenclature. The financial accounting provisions used by the WPRS for this major water development program do not incorporate the element of time in a fashion which provides for realistic recovery of capital costs associated with power generating facilities. Also, irrigation development is considered in essentially a timeless dimension (zero interest rate) such that repayment to the Federal Treasury is nonexistent. The end result is that the financial accounts distort significantly the actual resource allocation process. Hydroelectric power rate schedules for these public facilities in no way reflect the associated costs; nor is the magnitude of Federal subsidy of water development recognizable.

The specific dollar magnitude of public subsidy associated with this development program is difficult to ascertain. However, the following comparative analysis provides some basis of estimation. Consider first the repayment on power facilities. As now structured within the Pick-Sloan repayment scheme, the capital investment is to be repaid with interest (3 percent or less), within 50 years of completion. As pointed out, however, some of this investment (an average of 17 percent) is suballocated to future irrigation on a noninterest bearing basis. In effect, this results in automatically ignoring 17 percent of the cost of the facility. Given a \$100 million project, with a 3 percent interest charge on \$83 million (\$100 million less 17 percent) the annual repayment to the Federal Treasury is about \$3.2 million. In contrast, a more conventional 50-year repayment schedule at 9 percent interest for the full capital investment would result in an annual repayment obligation of \$9.1 million—nearly 3 times as great. One must conclude, the actual repayment on the power facilities as implied by the Pick-Sloan system is not in full; rather it represents a public subsidy of \$2 for every \$1 of repayment. Accordingly, the wholesale rate structure on the power sold by the Pick-Sloan system is artificially low. What follows then, is an economic incentive for power consumers to over-use energy in today's environment dictating energy conservation.

In the case of irrigation investment the repayment implication is even more grossly misrepresented. Under present criteria, the principal is paid off by power revenues (roughly 75 percent) and project irrigators (roughly 25 percent) over a 40-year period beginning 10 years after the first season of water delivery. Since the financial obligation on irrigation development is interest free, the annual repayment on a \$100 million irrigation project is \$2.5 million per year over the 40-year repayment period, or an average of \$2.0 million per year over the full 50-year time period. Under conventional financing, one would need to account for the buildup of principal during the first 10 years as well as assign an appropriate interest rate reflecting the time dimension of capital usage. Under these provisions the \$100 million would compound to \$237 million in 10 years at a 9 percent rate of growth. Thus, at the beginning of the repayment period, the repayment obligation would

be \$237 million. Assuming a 9 percent interest rate, the amortized interest and principal payment would be \$21.9 million annually. In other words, the direct repayment to the Federal Treasury would actually be less than 10 percent of the annualized cost of the public investment. The Federal irrigation subsidy exceeds, by nearly 10 times, the actual dollar repayment made by irrigators and power users. In fact, irrigators, the primary recipients of project benefits, are obligated to repay at a rate of less than \$0.03 on every dollar of public expenditure. The point is clear - any inference that the direct beneficiaries of Federal irrigation development are making more than token repayment borders on fraud.

In summary, the commitment of massive levels of public expenditures and natural resources to water development programs such as the Pick-Sloan System requires effective financial management and sound accounting principles. Unfortunately, the procedures now employed greatly distort the economic connotations involved. A thorough restructuring of these accounting and repayment provisions is of highest priority. Without an accurate and widespread awareness of the magnitude of Federal obligation associated with public water development, responsible policy decisionmaking will remain elusive.

LITERATURE CITED

- Baumol, William J., 1970. On the discount rate for public projects. In: *Public Expenditures and Policy Analysis*, Robert H. Haveman and Julius Margolis (Editors). Rand McNally College Publishing Co., Chicago, Illinois, pp. 273-290.
- Libby, Lawrence W., 1978. USDA Economic Perspectives on Natural Resource Issues. In: *Proceedings of the 1978 National Food and Agricultural Outlook Conference*, U.S. Department of Agriculture, Washington, D.C.
- Missouri Basin Survey Commission, 1953. *Missouri: Land and Water, The Report of the Missouri Basin Survey Commission*. U.S. Government Printing Office, Washington, D.C.
- North, Ronald and Walter P. Neely, 1977. A Model for Achieving Consistency for Cost Sharing in Water Resource Programs. *Water Resources Bulletin* 13(5):995-1005.
- Office of Audit and Investigation, U.S. Department of Interior, 1978. *Review of Repayment Status of Pick-Sloan Missouri Basin Program and Individually Authorized Projects*, Bureau of Reclamation, Washington, D.C.
- Water and Power Resources Service, U.S. Department of Interior, 1980. *Project Data Sheet, O'Neill Unit, Nebraska, Pick-Sloan Missouri Basin Program*. Washington, D.C.
- Young, Robert A., 1978. Economic Analysis and Federal Irrigation Policy: A Reappraisal. *Western Journal of Agricultural Economics* 3(2):257-267.

WATER RESOURCES BULLETIN

AMERICAN WATER RESOURCES ASSOCIATION

St. Anthony Falls Hydraulic Laboratory
Mississippi River at 3rd Avenue S.E.
Minneapolis, Minnesota 55414
Telephone: 612/376-5050

Pick - Sloan file

EDITOR

WILLIAM R. BOGGESS
Laboratory of Tree-Ring Research
University of Arizona
Tucson, Arizona 85721
Telephone: 602/626-4104

ASSOCIATE EDITORS

Environment and Biology
PHILLIP E. GREESON
U. S. Geological Survey, WRD
National Center, Mail Stop 412
Reston, Virginia 22092
Telephone: 703/860-6832

Social and Political Sciences
NORMAN WENGERT
1225 Teakwood Drive
Fort Collins, Colorado 80525
Telephone: 303/491-5664

Mathematical Hydrology
EUGENE S. SIMPSON
Hydrology and Water Resources
University of Arizona
Tucson, Arizona 85721
Telephone: 602/626-1855

Economics
GARY C. TAYLOR
12423 Madeley Lane
Bowie, Maryland 20715
Telephone: 202/447-9250

EDITORIAL BOARD

WILLIAM R. BOGGESS
University of Arizona
KENNETH L. BOWDEN
Northern Illinois University
JOHN CAIRNS, JR.
Virginia Polytechnic Institute
PHILLIP E. GREESON
U. S. Geological Survey
RAYMOND HERRMANN
National Park Service
DAVID M. HERSHFIELD
USDA Hydrograph Laboratory
DAVID H. HICKCOX
Ohio Wesleyan University
JOHN J. HILDRE
University of North Carolina
ARNOLD IVAN JOHNSON
Woodward-Clyde Consultants
ABDEL-AZIZ I. KASHEF
Yarmouk University, Jordan
ARLEIGH H. LAYCOCK
University of Alberta
MIGUEL A. MARINO
University of California, Davis

MARY H. MARSH
University of Minnesota
J. KENT MITCHELL
University of Illinois, Urbana
GAROLD G. PARKER
Tampa, Florida
ZUBAIR A. SALEEM
EBASCO Services, Inc.
KENNETH D. SCHMIDT
Consultant, Fresno, California
EUGENE S. SIMPSON
University of Arizona
KRISHAN P. SINGH
Illinois State Water Survey
GLENN E. STOUT
University of Illinois, Urbana
GARY C. TAYLOR
U. S. Department of Agriculture
GEORGE C. TAYLOR, JR.
U. S. Geological Survey, WRD
NORMAN WENGERT
Colorado State University
VARLEY E. WIEDEMANN
University of Louisville

BOOK REVIEW EDITOR
KRISHAN P. SINGH
Illinois State Water Survey

CONTRIBUTING EDITOR - LAW
WILLIAM GOLDFARB
Dept. of Environmental Resources
Cook College, Rutgers University

EDITOR OF NEWS AND ASSOCIATION AFFAIRS
MARY H. MARSH
St. Anthony Falls Hydraulic Laboratory
Telephone: 612/373-2782

PUBLICATIONS PRODUCTION COORDINATOR
CHARLENE YOUNG

INFORMATION FOR AUTHORS

The Editor of the *WATER RESOURCES BULLETIN* invites contributions relating to all aspects of water resources in the form of professional papers, discussions, technical notes, or items of general interest. Persons wishing to submit manuscripts for possible publication in the *BULLETIN* should refer to the "Instructions for Authors" appearing in the February 1980 *WRR*, or request a copy from AWRA, St. Anthony Falls Hydraulic Laboratory, Mississippi River at 3rd Avenue S.E., Minneapolis, Minnesota 55414. It includes detailed instructions for the preparation, submission, copyright clearance, and processing of manuscripts. All manuscripts should be sent to the EDITOR and all news and general items should be sent to the NEWS EDITOR at the AWRA Headquarters at the address shown above.

SUBSCRIPTION INFORMATION

The subscription rate is \$35.00 annually; price per copy for past issues is \$7.00. Members of AWRA receive the *Water Resources Bulletin* as part of their membership (dues \$30.00 per calendar year). Send ADDRESS CHANGES 8 weeks in advance of relocation. Remove or copy the address label (being certain to include the number in the upper right hand corner of the label) and attach to postal service form No. 3576, or include this with a letter of notification. If the new address is unknown 8 weeks prior to a move, include a mailing label and request that publications be held until further notice is received. CLAIMS FOR MISSING ISSUES should be sent to the AWRA Office in Minneapolis. No claims allowed for (1) insufficient notice of address change; (2) issues lost in the mail unless claimed within (a) 90 days for U.S.A., or (b) 150 days for other countries, from last day of month of publication; or (3) such reasons as "missing from files."

THE AMERICAN WATER RESOURCES ASSOCIATION is a multidisciplinary organization dedicated to the advancement of research, planning, management, development, and education in water resources. AWRA provides a focal point for the collection, organization, and dissemination of ideas and information in the physical, biological, economic, social, political, legal, and engineering aspects of water-related problems. Its publications and meetings and symposia, both at national and local levels, provide an essential forum for communication among disciplines with a common interest in water supply, quality, use, development, and conservation.

AWRA EXECUTIVE SECRETARY: DANA C. RHOADS

AWRA HISTORIAN: MARY H. MARSH

LEGAL COUNSEL: RAYMOND A. HAIK
Popham, Haik, Schnobrich, Kaufman and Doty, Minneapolis

*The *Water Resources Bulletin* is owned and published bimonthly by the American Water Resources Association, St. Anthony Falls Hydraulic Laboratory, Mississippi River at 3rd Avenue S.E., Minneapolis, Minnesota 55414, U.S.A. (Phone: 612/376-5050). AWRA is not responsible for statements and opinions advanced in its publications. Printed by Kimm Printing, Minneapolis, Minnesota. Copyright © 1980 by the American Water Resources Association. Second class postage paid at Minneapolis, ISSN 0043-1378.

ATTACHMENT 6



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

MAY 27 1977

Honorable Berkley Bedell
House of Representatives
Washington, D. C. 20515

Dear Mr. Bedell:

Attached please find the Bureau of Reclamation's responses to the questions you raised during our meeting in your office on May 16, 1977.

I am also enclosing copies of the Water Project Review reports on the Garrison and Oahe project as well as the President's recommendations resulting from the review.

For additional information on those issues we discussed in our meeting -- per farm investment and hydroelectric power foregone -- your attention should be directed to pages 3 and 7 of the Oahe report, and pages 3 and 8 of the Garrison report.

I hope this information is responsive to your request. If I can be of further assistance in this matter, please let me know.

Sincerely,

GARY J. HICKS
Acting Deputy Assistant Secretary
Land and Water Resources

Enclosures



ATTACHMENT # 6

A draft environmental statement on the Corps proposal to increase the generating capability on the main stem dams has been issued and comments received. The Corps Division Office in Omaha is now preparing a report to the Office of Chief Engineer which is expected to be completed about July 1, 1977. The study recommends an additional 185 mw at Fort Peck, 272 mw at Garrison and additional capacity at Oahe has been deferred until the projected rate of depletion growth has been resolved. The additions at Fort Peck and Garrison are considered practical and cost beneficial. Cost of the additions at Garrison is estimated at \$66.5 million.

6. How many kilowatts of electricity can be generated by one acre-foot of water?

At Garrison the average generation per acre-foot of water is 141.0 kwh's. The average generation at Oahe is 148.3 kwh's per acre-foot of water.

7. Compare the average per-acre fair market value of dryfarm land being taken out of production by Garrison and Oahe with the estimated value of irrigated land to be served by the projects (as authorized).

The average per-acre fair market value of dry farm land is \$500/acre for Garrison and \$300/acre for Oahe at today's prices. The value of irrigated land at today's prices is \$1400/acre for Garrison project areas and \$1100/acre for Oahe Project areas. Land prices have advanced a minimum of 10 percent per annum in recent years.

8. If in the short-term of deauthorization of the Garrison and Oahe Projects would result in a 1.1 million increase in consumer electric bills, what would be the long-term effect of such action--would electric bills decrease at some point beyond 2020? Also what would be the short and long term effect of the President's recommended modifications on consumer electric bills in both the short and long term?

Portions of the Pick-Sloan Missouri Basin Program (P-SMBP) costs, including the pumping power and mainstem reservoir investments, are assigned to both Garrison Diversion and Oahe Units for repayments. Those costs amount to \$170,052,000 and \$143,808,000 plus annual operation, maintenance, and replacement respectively, for ultimate development of both units. (At present only the initial stages of the units are authorized.)

In the event Garrison and Oahe were to be deauthorized, it is expected that costs to Reclamation customers would increase by approximately 23% (10.5% for Garrison and 12.5% for Oahe) or about \$8.8 million annually. This would amount to a 1.1 mill increase over the present P-SMBP rate of 6.2 mills per kwh. Alternative power costs are in the neighborhood of 11 mills per kwh.

Power customers in Western Iowa would experience increased power costs of about \$1.0 million annually. This estimate is based on the assumption that the costs of the P-SMBP, which have been assigned by law for repayment by the Garrison Diversion Unit and Oahe Unit, will be reassigned to the Pick-Sloan account for immediate repayment with interest. However, as long as the Garrison and Oahe projects continue as authorized, the payments on the P-SMBP costs assigned to those projects will continue to be deferred without interest until such time as the projects have been completed and irrigation repayment begins. Repayment will then extend over a 50-year period.

In accordance with Reclamation law, power revenues are applied first to repayment of annual operation and maintenance expenses, purchase power, and interest costs. After scheduled repayment of the commercial power investment is completed, surplus power revenues will be used to assist repayment of the irrigation investment beyond the irrigators ability to pay. In the case of Garrison this would amount to \$478,485,000 of the \$523,293,000 in reimbursable costs attributable to the 1965 authorized plan. In the case of the Oahe Unit, this would amount to \$407,953,000 of the \$472,282,000 in reimbursable Federal costs. If these projects are deauthorized, repayment of the bulk of the reimbursable costs of the two irrigation projects would, of course, not be required. Therefore, it is expected that the consumer electric bills would be reduced in the long-term (after year 2060) in the event deauthorization occurs.

It should be kept in mind that any discussion of deauthorization of these projects is very hypothetical. The President has not recommended deauthorization of either Garrison or Oahe, but rather has recommended modification of the projects. The President has, however, recommended that funding for the Oahe Unit be withheld for fiscal year 1978 pending the outcome of the Oahe Conservancy Subdistrict's reevaluation of its commitment to the project.

The extent to which the modified Garrison and Oahe projects would affect consumer electric bills is uncertain. Since the Administration is committed to reauthorization of the Garrison project, in keeping with the recommended modification of the project, it is expected that a portion of P-SMBP could revert to the river basin account for repayment upon enactment of the legislation. Depending upon the outcome of the Oahe Conservancy Subdistrict's reevaluation of their commitment, reauthorization may not be necessary and therefore the repayment arrangement would remain intact. On the whole, impacts on consumer electric bills would be minimal.

ATTACHMENT 7

July 13, 1978

CONGRESSIONAL RECORD—SENATE

S 10689

SEC. 2. The amendment made by the first section of this Act shall apply with respect to years beginning after December 31, 1978.

By Mr. ABDOUREZK: S. 3232. A bill to provide for deauthorizing the initial stage of the Oahe unit, James division, Missouri River basin project, South Dakota; to the Committee on Energy and Natural Resources.

DEAUTHORIZATION OF THE Oahe PROJECT
 ● Mr. ABDOUREZK, Mr. President, today I am introducing a bill to deauthorize the Oahe project in my State of South Dakota. The project has been controversial for many years, but events in the last 3 years have convinced me that the project should not be built.

Organized opposition to the project began several years ago. Many local farmers contended that the project would do more harm than good. It would take 110,000 acres out of production to irrigate 130,000 acres. These farmers doubted that the loss of all this land would be compensated for by the increase in productivity due to irrigation, particularly since there was some question about the irrigability of the soil in the project. There was also concern that the project would cause the James River, which would be receiving return irrigation flows, to have levels of pollutants exceeding Federal standards. Finally, many farmers wondered whether irrigation was as much a benefit as the Bureau of Reclamation was contending. The area to be irrigated was already a successful dryland farming region, and irrigation would entail enormous capital expenditures by project beneficiaries.

The most vocal opposition, of course, came from the hundreds of people whose land would be taken for the project, either in total, or in part. For many people, canals and other project features would cut their farms in half, seriously hampering their agricultural efficiency. These people, in concert with environmentalists and other concerned local residents, formed United Family Farmers, a group seeking to change and perhaps terminate the Oahe project.

At first, I told the UFF that while I was sympathetic to their concerns, I still thought that the project was a good one. I also told them, however, that I would not force a project down the throats of local people, and that if the project opponents could win a majority of seats on the local board which holds the contract with the Bureau of Reclamation, then I would support the decisions of that majority.

In 1974, project opponents appeared to have won a majority of the five seats contested in that election, but one of the elected individuals later changed his view of the project. In 1976, in the midst of a severe drought, the opponents won five of six seats, losing the sixth by a narrow margin. These two elections provided the opponents with a clear majority on the Board—7 to 4 or more on most votes—and, after an extensive review of the project, the Board voted to request that Congress spend no funds for the fiscal year that is now ending. The Interior Department agreed with this recommendation, saying that they could

not recommend a project which lacked local support. Congress did not provide funds for Oahe last year, and will not this year.

This year, the Board has voted to request that Congress deauthorize the Oahe project. I think it is time to take this step.

One would have to search very hard to find any major elected official in South Dakota who believes that the Oahe project, as designed, makes good sense for the State. I think it is fair to say that the reason for this is that the project simply takes too much good land out of production in order to irrigate already productive land. It is just not a good bargain, even at the highly subsidized rates of Federal water projects. In fact, hundreds of local farmers have come to Washington to ask the Congress and the Interior Department not to build the project. It is rare, indeed, that the supposed beneficiaries of a project come to the Government and say "Don't spend your money on us!"

Many people in the State, however, want to keep the Oahe authorization alive in as a means to obtain some other water project in the State, possibly using some of the features of the Oahe project, which is now about 10 percent complete. Unfortunately, any project that could be constructed within the existing authorization would encounter the same local opposition and the same problems that the existing project faces, because any such project would move water a very long distance. This necessitates condemning a great deal of land for project features and wildlife mitigation. It necessitates the breaking up of scores of productive farms.

As long as this authorization exists, however, people will want to use it in the hopes that some project can be reauthorized. It must be admitted that there are strong project proponents, but, I am afraid, most of these are bankers and business people who stand to gain by the project's construction.

The farmers in the area affected by the project, by contrast, have proven by decisive elections that they do not want this project, or any version of it. They believe, instead, that South Dakota should move away from large-scale irrigation projects and move to more realistic, more modern smaller scale approaches. By deauthorizing Oahe, we can take the first step toward doing that.

I ask unanimous consent that the text of the bill be printed in the Record. There being no objection, the bill was ordered to be printed in the Record, as follows:

S. 3232

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the construction, operation, and maintenance by the Secretary of the Interior, hereinafter referred to as the "Secretary", of the initial stage of the Oahe Unit, James Division, Missouri River Basin Project, South Dakota, heretofore authorized by the Act of August 2, 1908 (Public Law 90-453, 33 Stat. 624), for the purpose of furnishing a surface irrigation water supply and for other purposes, is hereby deauthorized and is no longer authorized for construction and is no longer an integral physical or financial part of the

comprehensive Pick-Sloan Missouri Basin Program that was approved by section 9 of the Act of December 22, 1944 (58 Stat. 901), as amended and supplemented.

SEC. 3. Within 18 months following the date of this Act, the Secretary shall submit to the Congress his recommendations for the disposition of those Oahe Unit Works, facilities, and related properties that have been acquired or constructed, such recommendations to be developed by the Secretary in cooperation with the affected Federal agencies, the elected officials of the State of South Dakota, and the general public. The Secretary is hereby authorized to implement such recommendations; Provided, however, That no appropriation shall be used for implementing such recommendations for disposition of the Oahe Unit works, facilities, and related properties prior to 60 calendar days from the date on which the Secretary's recommendations have been submitted to the Congress and then only if, within said 60 days, neither the House Interior and Insular Affairs Committee nor the Senate Energy and Natural Resources Committee disapprove the disposition plan.

SEC. 4. Those funds previously expended pursuant to authorities contained in the Act of August 2, 1908 (Public Law 90-453, 33 Stat. 624), shall be charged against the general Treasury of the United States and shall not be charged against the Pick-Sloan Missouri Basin Program.

SEC. 5. Those revenues derived from the disposition, under the authority of this Act, of Oahe Unit Works, facilities, and related properties shall be deposited to the general Treasury; Provided, however, That such properties shall not be disposed of at less than fair market value at the time of disposition, as determined by the Secretary; and Provided, further, That in such disposition, the Secretary is authorized, notwithstanding provisions of law to the contrary, to give first right of refusal for the purchase of such properties to legally constituted public entities of the State of South Dakota or to previous owners of acquired property, as the Secretary may determine.

SEC. 6. This Act is declared to be a supplement to the Reclamation Act of June 17, 1902 (32 Stat. 388), and acts amendatory and supplementary thereto, which shall govern the implementation of this Act except as otherwise provided herein.

SEC. 7. There are authorized to be appropriated such sums as may be required to carry out the provisions of this Act.

By Mr. MELCHER (for himself, Mr. BURDICK, Mr. PAUL G. HAYFIELD, and Mr. YOUNG):

S. 3233. A bill to provide that the Amtrak route system in effect on January 1, 1978, shall not be modified or restructured prior to October 1, 1979, and for other purposes; to the Committee on Commerce, Science, and Transportation.

AMTRAK ROUTE SYSTEM

● Mr. MELCHER, Mr. President, this is a bill that would freeze the Amtrak system for 23 months and allow two or more contiguous States to participate in a Federal/State subsidy of a route segment.

The free standing bill has the following provisions:

One. Takes the House "freeze" provision to freeze the system under law until October 1, 1979.

Two. Requires approval of the final system plan by both the Senate and the House.

Three. Adds an additional 60-day notice period, which is an additional 60-day freeze, for train discontinuance

ATTACHMENT 8

TRACT No. 1

ND29-19

Revised 10-8-68

CAME UNIT

County Brown, S. Dak.Date 12/12/69Owner Erickson, Oliver A.Sec. 20, T. 122, R. 62Map No. 40:4-109

Land Classification Tabulation by 40-Acre Tracts

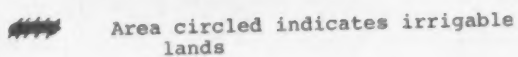
Legal description		Arable classes			Total arable	Nonarable classes			Totals
		1	2	3		5a	6	ROW	
NE $\frac{1}{4}$	NE-NE								
	NW-NE								
	SW-NE								
	SE-NE								
NW $\frac{1}{4}$	NE-NW								
	Nd-Nd								
	Se-Nd					137	227	12	376
	SE-NW			117	117	6	275		400
SW $\frac{1}{4}$	NE-SW					252	145		400
	Nd-SW			56	56	65	265	14	400
	SW-SW						394	16	400
	SE-SW						394	6	400
SE $\frac{1}{4}$	NE-SE								
	NW-SE								
	SW-SE								
	SE-SE								
TOTALS				175	175	460	1696	47	2378

Arable acreage refers to the gross acreage in a tract of land that is suitable for irrigation before deductions are made for project and farm supply systems or other right-of-way and nonproductive uses.

Nonarable 5a land may be considered as potentially irrigable if deep plowing experiments show this practice to be a permanent way to break up the claypan to create a permeable soil profile.

ROW: Refers to acreage in existing roads and rights-of-way.

Class 6 includes all other land areas that are not irrigable.



Note that the land classified as Class 6 is lower than the rest of the tract,....with the 3 ft. water table this would be lost to seepage.

ATTACHMENT 9

TRACT No. 2

7029-19

Revised 10-3-68

O&A UNIT

County Brown, S. Dak.Date 12/1/68Owner Erickson, Oliver A. & RamonaSec. 17, T. 122, R. 62.Map No. 4021-122

Land Classification Tabulation by 40-Acre Tracts

Legal description	Arable classes			Total arable	Nonarable classes			Totals
	1	2	3		5s	6	ROW	
NE $\frac{1}{4}$ NE-NE								
NW $\frac{1}{4}$ NE-NE								
SW $\frac{1}{4}$ NE-NE								
SE $\frac{1}{4}$ NE-NE								
NW $\frac{1}{4}$ NE-NW								
NW $\frac{1}{4}$ NW-NW								
SW $\frac{1}{4}$ NW-NW								
SE $\frac{1}{4}$ NW-NW								
SW $\frac{1}{4}$ NE-SW		19	71	90		312		402
NW $\frac{1}{4}$ NW-SW	35	252	42	329		53	17	402
SW $\frac{1}{4}$ SW-SW		17		17		214	12	402
SE $\frac{1}{4}$ SW-SW			124	124		272		402
SE $\frac{1}{4}$ NE-SE								
NW $\frac{1}{4}$ NW-SE								
SW $\frac{1}{4}$ SW-SE								
SE $\frac{1}{4}$ SE-SE								
TOTALS	35	451	237	723		853	24	1600

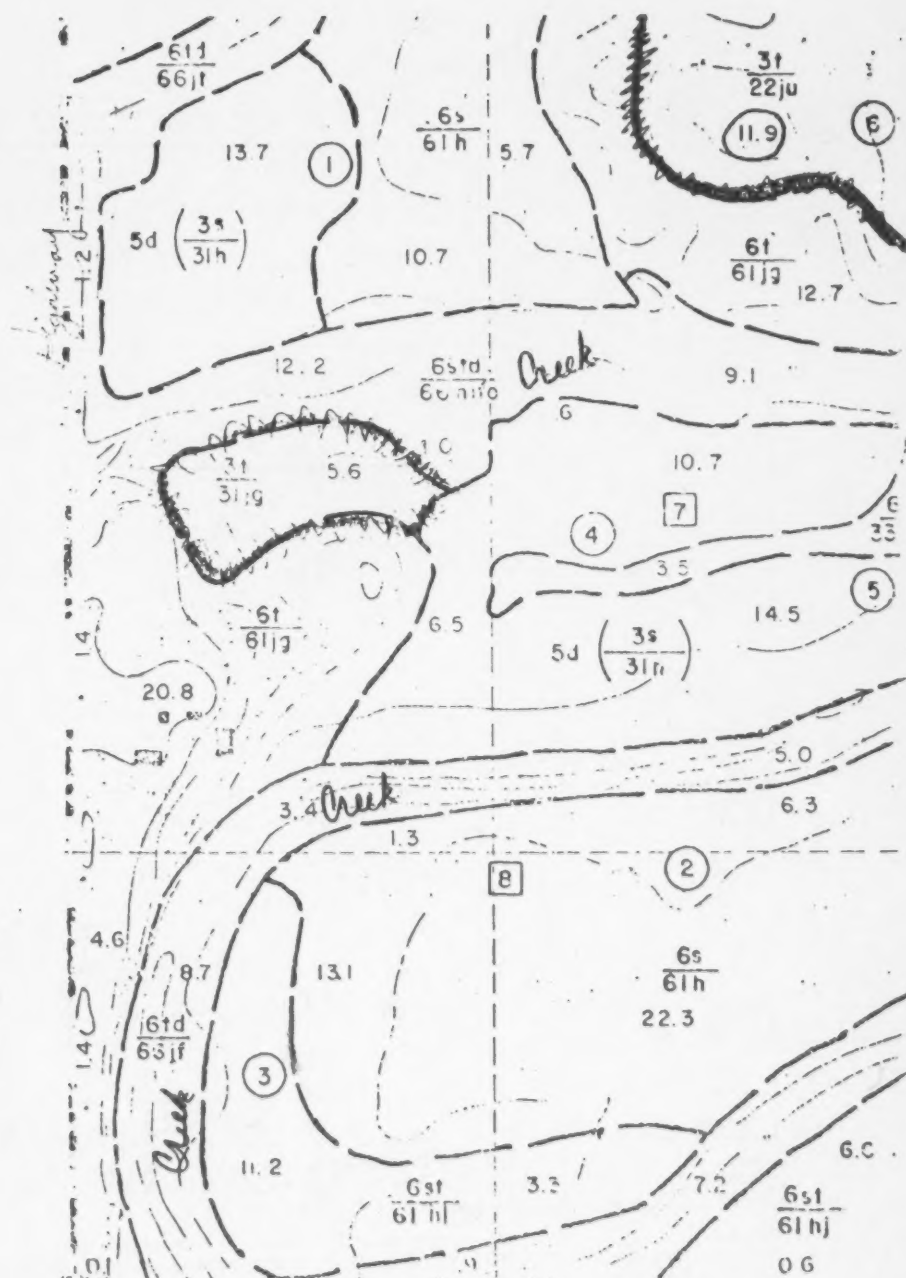
Arable acreage refers to the gross acreage in a tract of land that is suitable for irrigation before deductions are made for project and farm supply systems or other right-of-way and nonproductive uses.

Nonarable 5s land may be considered as potentially irrigable if deep plowing experiments show this practice to be a permanent way to break up the claypan to create a permeable soil profile.

ROW: Refers to acreage in existing roads and rights-of-way.

Class 6 includes all other land areas that are not irrigable.

TRACT # 2 (attachment #9)



Area circled indicates irrigable
land

ATTACHMENT 10

TRACT No. 3

WD29-19
Revised 10-8-60

OAHN UNIT

County Brown, S. Dak. Date 12/12/62Owner Oliver, Clarence & Erickson, Peter H.Sec. 25, T. 122, R. 63Map No. 4253-22

Land Classification Tabulation by 40-Acre Tracts

Legal description		Arable classes			Total arable	Nonarable classes			Total
		1	2	3		5s	6	ROW	
NE $\frac{1}{4}$	NE-NE								
	NW-NE								
	SW-NE								
	SE-NE								
NW $\frac{1}{4}$	NE-NW		199	123	322		44	34	400
	NW-NW		11	267	278			24	312
	SW-NW		63	329	392			17	409
	SE-NW		240	152	392				400
SW $\frac{1}{4}$	NE-SW								
	NW-SW								
	SW-SW								
	SE-SW								
SE $\frac{1}{4}$	NE-SE								
	NW-SE								
	SW-SE								
	SE-SE								
TOTALS			519	973	1492		44	64	1600

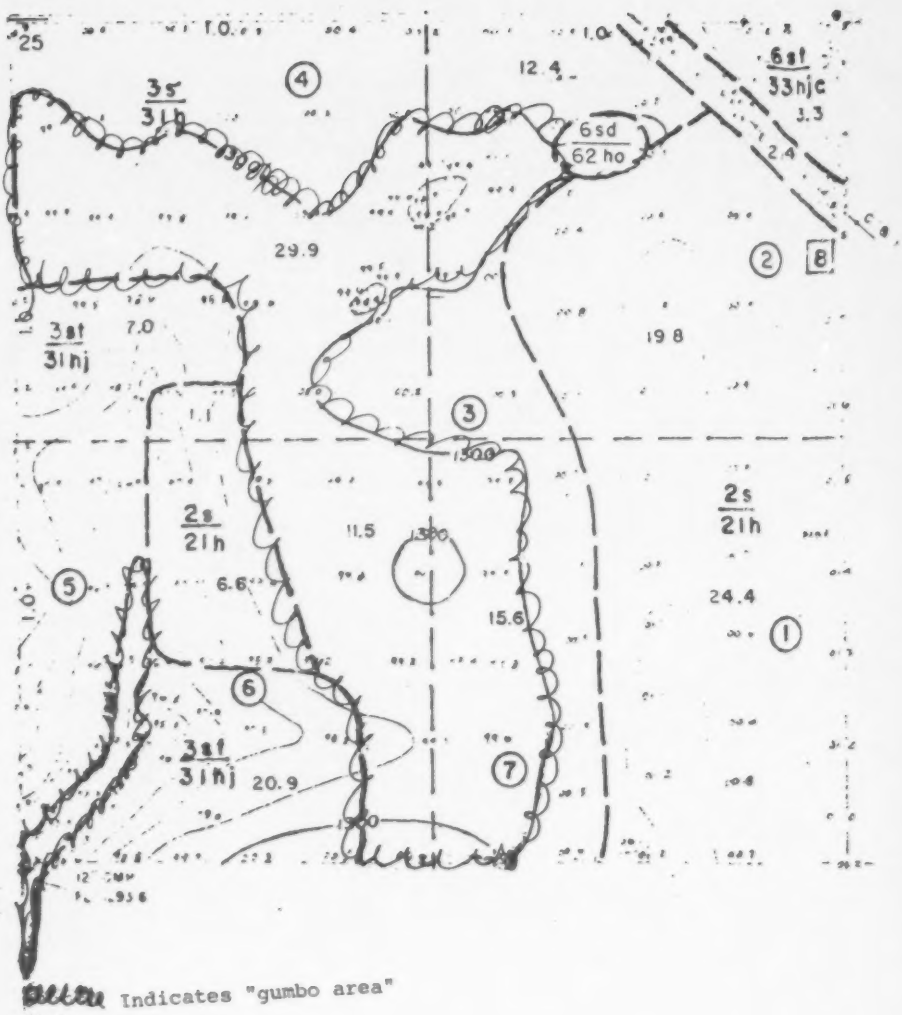
Arable acreage refers to the gross acreage in a tract of land that is suitable for irrigation before deductions are made for project and farm supply systems or other right-of-way and nonproductive uses.

Nonarable 5s land may be considered as potentially irrigable if deep plowing experiments show this practice to be a permanent way to break up the claypan to create a permeable soil profile.

ROW: Refers to acreage in existing roads and rights-of-way.

Class 6 includes all other land areas that are not irrigable.

TRACT # 3 (attachment #10)



335

S. 1553

BE IT ENACTED BY THE SENATE AND THE HOUSE OF REPRESENTATIVES OF THE UNITED STATES OF AMERICA IN CONGRESS ASSEMBLED, THAT:

(a) THE WEB RURAL WATER DEVELOPMENT PROJECT, AUTHORIZED BY SECTION 9 OF PUBLIC LAW 96-355, IS REAUTHORIZED, AMENDED TO EXTEND THE FUNDING DATE BEYOND SEPTEMBER 30, 1981.

(b) THE SECRETARY OF INTERIOR (HEREINAFTER REFERRED TO AS THE "SECRETARY") IS DIRECTED TO PROCEED WITH THE DEVELOPMENT OF THE WEB RURAL WATER DEVELOPMENT PROJECT, CONSISTENT WITH THE TERMS OF SECTION 9(e) OF PUBLIC LAW 96-355, AND TO MAKE AVAILABLE FOR IMMEDIATE OBLIGATION ANY FUNDS APPROPRIATED FOR SUCH PROJECT FOR FISCAL YEAR 1981, EXCEPT THAT SUCH FUNDS SHALL BE MADE AVAILABLE DIRECTLY TO THE WEB ASSOCIATION AND SHALL NOT BE TRANSFERRED TO THE DEPARTMENT OF AGRICULTURE.

SECTION 2.(a) THE SECRETARY IS AUTHORIZED, IN COOPERATION WITH THE STATE OF SOUTH DAKOTA CONSERVANCY SUB-DISTRICTS OF SOUTH DAKOTA, TO CONDUCT A STUDY PURSUANT TO THIS ACT WHICH SHALL INCLUDE CONSIDERATION OF:

(1) ALTERNATIVE USES OF FACILITIES CONSTRUCTED FOR USE IN CONJUNCTION WITH THE OAKE UNIT, INITIAL STAGE, JAMES DIVERSION, PICK SLOAN MISSOURI RIVER BASIN PROGRAM, SOUTH DAKOTA.

(2) FUTURE USES IN SOUTH DAKOTA OF WATER DELIVERED BY THE GARRISON UNIT, PICK SLOAN MISSOURI RIVER BASIN PROGRAM, NORTH DAKOTA.

(3) A MODIFIED PLAN OF DEVELOPMENT FOR THE POLLOCK HERRIES UNIT, SOUTH DAKOTA PUMPING DIVISION, PICK SLOAN MISSOURI RIVER BASIN PROGRAM, SOUTH DAKOTA, INCLUDING ALTERNATIVE LANDS OR REDUCED AREAS; AND

(4) THE POTENTIAL FOR DEVELOPMENT OF ANY OTHER WATER PROJECT OR PROJECTS PROPOSED BY THE GOVERNOR OF THE STATE OF SOUTH DAKOTA CONSERVANCY SUB-DISTRICT OF SOUTH DAKOTA, IN ACCORDANCE WITH THE POLICIES AND PRIORITIES OF THE STATE CONSERVANCY SUB-DISTRICTS, WHICH THE SECRETARY DETERMINES MAY QUALIFY FOR FEDERAL CONSTRUCTION FUNDING UNDER THE TERMS OF THIS SECTION.

(b) IN FORMULATING HIS RECOMMENDATION TO CONGRESS THE SECRETARY SHALL TAKE INTO ACCOUNT THE LAND INUNDATED IN SOUTH DAKOTA UNDER THE PICK-SLOAN MISSOURI BASIN PROGRAM AND THE IRRIGATION DEVELOPMENT AUTHORIZED FOR SOUTH DAKOTA BY THE FLOOD CONTROL ACT OF 1944. IN DETERMINING THE FEASIBILITY OF PROJECTS PROPOSED BY THE STATE SUB-DISTRICTS UNDER THIS SECTION THE SECRETARY SHALL USE CRITERIA NO LESS FAVORABLE THAN THOSE UNDER WHICH THE OAKE UNIT, INITIAL STAGE, WAS AUTHORIZED, EXCEPT THAT THE SECRETARY MAY USE OTHER CRITERIA WITH THE CONSENT OF THE STATE. BASED UPON CURRENT COSTS OF INVESTMENT AND OPERATION OF DRYLAND AND IRRIGATING FARMS AND PRICES RECEIVED WHICH ARE AND REPRESENTATIVE OF OPERATING BUDGETS OF LOCAL FARMERS IN THE AREA, USING CURRENT RATES OF INTEREST, AND REALISTIC ESTIMATES OF LOCAL FARM ECONOMIES AND INCREASES IN PRODUCTION LEVELS AS A RESULT OF THE PROPOSED PROJECT. THE SECRETARY SHALL ALSO DETERMINE FEASIBILITY BASED UPON MAINTAINING AND ENHANCING WATER QUALITY, MAINTAINING AND PROTECTING LONG TERM FERTILITY OF SOILS, AND PROTECTION OF WILDLIFE HABITAT TO AVOID THE NECESSITY OF WILDLIFE MITIGATION.

(c) THE SECRETARY SHALL REPORT TO CONGRESS THE FINDING OF THE STUDIES, ALONG WITH HIS RECOMMENDATIONS FOR DISPOSITION OF THE OAKE UNIT, INITIAL STAGE, FOR THE DEVELOPMENT OF THE POLLOCK HERRIES UNIT, AND FOR FEDERAL INVOLVEMENT IN OTHER PROJECTS PROPOSED BY THE STATE SUB-DISTRICTS.

(d) THE SECRETARY MAY CONTRACT WITH THE STATE SUB-DISTRICTS TO CARRY OUT THE PROVISIONS AUTHORIZED BY THIS SECTION.

(e) THE STUDIES PERFORMED AND THE REPORTS MADE UNDER THIS SECTION SHALL BE OF RECONNAISSANCE, APPRAISAL, OR FEASIBILITY GRADE AS IS APPROPRIATE TO DETERMINE WHETHER FURTHER ACTION ON THE DEVELOPMENT OF THE SECRETARY'S RECOMMENDATION IS WARRANTED.

SECTION 3(a) THE SECRETARY IS AUTHORIZED TO TERMINATE THE MASTER CONTRACTS AND PARTICIPATING AND SECURITY CONTRACTS FOR THE OAHU UNIT INITIAL STAGE WITH MUTUAL AGREEMENT WITH THE OAHU CONSERVANCY SUB-DISTRICT AND SPINK AND WEST BROWN IRRIGATION DISTRICTS AND TO RELEASE ANY AND ALL FUNDS ACCUMULATED BY THE OAHU CONSERVANCY SUB-DISTRICT UNDER THE MASTER CONTRACT. FURTHER PROVIDED, PRIOR TO TERMINATION OF THE CONTRACTS, THE CONSTRUCTION, OPERATION, AND MAINTENANCE BY THE SECRETARY OF THE INITIAL STAGE OAHU UNIT, JAMES DIVERSION, MISSOURI RIVER BASIN PROJECT, SOUTH DAKOTA, AUTHORIZED BY THE ACTS OF AUGUST 3, 1968 (PUBLIC LAW 90-453; 82 STAT. 624), AND OCTOBER 27, 1972 (PUBLIC LAW 92-577; 86 STAT. 1265), FOR THE PURPOSE OF FURNISHING A SURFACE IRRIGATION WATER SUPPLY AND FOR OTHER PURPOSES, IS HEREBY DEAUTHORIZED AND IS NO LONGER AN INTEGRAL PHYSICAL OR FINANCIAL PART OF THE COMPREHENSIVE PICK-SLOAN MISSOURI RIVER BASIN PROGRAM THAT WAS APPROVED BY SECTION 9 OF THE ACT OF DECEMBER 22, 1944 (58 STAT. 891), AS AMENDED AND SUPPLEMENTED.

(b) WITHIN THREE MONTHS FOLLOWING THE DATE OF ENACTMENT OF THIS ACT, THE SECRETARY SHALL SUBMIT TO CONGRESS HIS RECOMMENDATIONS FOR THE DISPOSITION OF THOSE OAHU UNIT WORKS, FACILITIES, AND RELATED PROPERTIES THAT HAVE BEEN ACQUIRED OR CONSTRUCTED. SUCH RECOMMENDATIONS SHALL BE DEVELOPED BY THE SECRETARY IN COOPERATION WITH THE LOCAL CONTRACTING ENTITY, OAHU CONSERVATION SUB-DISTRICT, IN CONSULTATION WITH OTHER FEDERAL AGENCIES AND THE GENERAL PUBLIC. THE SECRETARY IS HEREBY AUTHORIZED TO IMPLEMENT SUCH RECOMMENDATION, EXCEPT THAT NO APPROPRIATION SHALL BE USED FOR IMPLEMENTING SUCH RECOMMENDATIONS FOR DISPOSITION OF THE OAHU UNIT WORKS, FACILITIES AND RELATED PROPERTIES PRIOR TO SIXTY CALENDAR DAYS FROM THE DATE ON WHICH THE SECRETARY'S RECOMMENDATIONS HAVE BEEN SUBMITTED TO CONGRESS.

(c) THOSE FUNDS PREVIOUSLY EXPENDED PURSUANT TO AUTHORITIES CONTAINED IN THE ACTS OF AUGUST 3, 1968 (PUBLIC LAW 90-453; 82 STAT. 624), AND OCTOBER 27, 1972 (PUBLIC LAW 92-577; 86 STAT. 1265), SHALL BE CHARGED AGAINST THE GENERAL FUND OF THE TREASURY OF THE UNITED STATES AND SHALL NOT BE CHARGE AGAINST THE PICK-SLOAN MISSOURI BASIN PROGRAM, EXCEPT THAT ALL COSTS ASSIGNED TO THE INITIAL STAGE OAHU UNIT WHICH ARE DEFERRED WITHOUT INTEREST SHALL BE RETAINED AS INTEREST FREE COSTS OF THE PICK-SLOAN MISSOURI RIVER BASIN PROGRAM.

(d) THOSE REVENUES DERIVED FROM THE DISPOSITION, UNDER THE AUTHORITY OF THIS ACT, OF OAHU UNIT WORKS, FACILITIES, AND RELATED PROPERTIES SHALL BE DEPOSITED TO THE GENERAL FUND OF THE TREASURY OF THE UNITED STATES. SUCH PROPERTIES SHALL NOT BE DISPOSED OF AT LESS THAN THE FAIR MARKET VALUE AT THE TIME OF DISPOSITION, AS DETERMINED BY THE SECRETARY. IN SUCH DISPOSITION, THE SECRETARY IS AUTHORIZED, NOTWITHSTANDING PROVISIONS OF LAW TO THE CONTRARY, TO GIVE FIRST RIGHT REFUSAL FOR THE PURCHASE OF SUCH PROPERTIES TO PREVIOUS OWNERS OF ACQUIRED PROPERTY OR THEIR HEIRS, AS THE SECRETARY MAY DETERMINE.

(e) THIS ACT IS DECLARED TO BE A SUPPLEMENT TO THE RECLAMATION ACT OF JUNE 17, 1902 (32 STAT. 388), AND ACTS AMENDATORY AND SUPPLEMENTARY THERETO, WHICH SHALL GOVERN THE IMPLEMENTATION OF THIS ACT EXCEPT AS OTHERWISE PROVIDED HEREIN.

(f) THERE ARE AUTHORIZED TO BE APPROPRIATED SUCH SUMS AS MAY BE REQUIRED TO CARRY OUT THE PROVISIONS OF SECTION (3) OF THIS ACT, FOR FISCAL YEAR BEGINNING AFTER SEPTEMBER 30, 1981.

(g) NOTHING CONTAINED IN THIS SECTION IS INTENDED TO INTERFERE WITH THE RIGHTS OF THE STATE OF SOUTH DAKOTA AS THEY PERTAIN TO THE IDENTIFICATION AND DEVELOPMENT OF ALTERNATIVE WATER DEVELOPMENT PROJECTS. IT IS THE SENSE OF CONGRESS THAT THE UNITED STATES SHALL HONOR ITS COMMITMENTS TO THE STATE OF SOUTH DAKOTA FOR FINANCIAL AND TECHNICAL SUPPORT OF WATER DEVELOPMENT AS COMPENSATION FOR LOSSES INCURRED AS A RESULT OF EARLIER COMMITMENTS OF RESOURCES FOR THE PICK-SLOAN MISSOURI RIVER BASIN DEVELOPMENT IN SOUTH DAKOTA.

(b) THOSE FEATURES OF THE AUTHORIZED PLAN OF DEVELOPMENT FOR THE OAHU UNIT, INITIAL STAGE, WHICH WERE DESIGNED FOR AND COULD BE USED ONLY TO DELIVER IRRIGATION WATER TO THE SPINK AND WEST BROWN IRRIGATION DISTRICTS SHALL NOT BE CONSTRUCTED BY THE SECRETARY, BUT NOTHING IN THIS ACT SHALL BE DEEMED TO LIMIT THE AUTHORITY OF THE SECRETARY TO DEVELOP OTHER FEATURES, BASED UPON THE STUDY AUTHORIZED BY SECTION 2(a)(4) OF THIS ACT.

SECTION 4. THE SECRETARY OF THE INTERIOR, IN COOPERATION WITH THE DEPARTMENT OF ENERGY, IS AUTHORIZED TO MAKE AVAILABLE MISSOURI RIVER BASIN PROGRAM PUMPING POWER TO IRRIGATE PROJECTS CONSTRUCTED IN SOUTH DAKOTA BY INDIAN TRIBES OR OTHER PUBLIC ENTITIES ORGANIZED UNDER STATE LAW AND WHICH HAVE BEEN AUTHORIZED BY THE FLOOD CONTROL ACT OF 1944 TO RECEIVE SUCH POWER. SUCH POWER SHALL BE MADE AVAILABLE AT THE REQUEST OF THE STATE OF SOUTH DAKOTA CONSERVANCY SUB-DISTRICT OR AN INDIAN TRIBE, REGARDLESS OF THE SOURCE OF FUNDING FOR SUCH IRRIGATION PROJECTS.

ASAP OFFICE
P O BOX 1012
DENVER COLORADO 80201

COLUMBIA SPRINGS OFFICE
P O BOX 120

COLUMBIA SPRINGS COLORADO 81611

STEAMBOAT OFFICE
P O BOX 101

STEAMBOAT VILLAGE, COLORADO 80480

WRIGHT WATER ENGINEERS, INC.

ENGINEERING CONSULTANTS

8430 ALCOTT STREET

DENVER COLORADO 80231

TELEPHONE 450-5301

CONSTRUCTION
WILLIAM L. LORAN
RUSSELL E. BARR
DR. P. ROBERT H. BROWN

8 December 1975

Mr. Martin Weeks, Attorney at Law
Bogue, Weeks & Rusch
National Bank of South Dakota Building
Vermillion, South Dakota 57069

Dear Martin:

This letter report is to convey my thoughts of the trip made to the proposed Oahe Irrigation Project with Dr. Norman Evans during the period of November 19th through November 22, 1975. Dr. Evans' report will be a separate and independent report of his findings.

Our trip included a visit to the South Dakota State University in Brookings, South Dakota on November 19th where we visited with Dr. Darrell DeBoer of the Agricultural Department and Dr. L. O. Fine of the Plants and Science Department. Dr. DeBoer has been in charge of some drainage experiments at the Redfield Farm in Spink County, and Dr. L. O. Fine, a Soils Agronomist, has been in charge of some experiments dealing with deep plowing and soil amendments on a 13-acre plot in Sec. 20, T 117 N, R 73 W. We also obtained the Soil Survey of Spink County from Dr. Fine.

After travelling through the snowstorm from Brookings to Huron with Mr. Raymond Braun and his wife, we had dinner at the Ole Pipe home after which we met with about a dozen of the United Family Farmers and you at the abandoned school house.

On Thursday, November 20th, we spent the day at the United States Bureau of Reclamation Office in Huron, South Dakota, to gather information on the USBR's methods used in land classification, permeability and infiltration tests. We interviewed several of the USBR personnel, including Preston L. Funkhouser, Jr., Project Manager, and Jerry Brunskill, Drainage Engineer. We were able to obtain most of the information collected by the USBR on permeability from their field pump-in tests during 1963 and 1972. We also visited the office of the Soil Conservation Service to obtain soils interpretation sheets on the Spink County soils.

On Friday, November 21st, we spent most of the day with Raymond Braun and Glenn Overby, touring the West and East Lake Plains area. We also visited the Redfield Farm and the 13-acre Claypan Soils Experiment area where Dr. L. O. Fine has been conducting his deep plowing and soil amendment experiments.

Our return to Denver was delayed until Saturday, November 22nd, because of airline schedule changes as a result of the South Dakota snowstorm on Wednesday and Thursday.

LOCATION

The Oahe Irrigation Project lies in the Lake Plain area in northeastern South Dakota on either side of the James River. This area, covering part of Spink County and Brown County beginning about 20 miles north of Huron and extending to Aberdeen, South Dakota, is the center of one of the most prosperous agricultural communities in South Dakota. Small grains, corn, alfalfa and sunflower seeds are the main cash crops. Corn and alfalfa are often used to fatten cattle for market in feed lots. Hogs are also raised. The average farm size is between 800 to 1000 acres.

TOPOGRAPHY

The elevation of the Lake Bed is about 1300 feet above sea level, and the elevation varies less than 15 feet over its entire extent except for the shallow stream-bed valleys. The expanse of seemingly level land is similar to the Red River Valley in eastern North Dakota.

CLIMATE

Extremes in temperature from 30°F below zero in the winter to 100°F above zero in summer occur. The average length of the growing season would normally range from 130 to 140 days.

The precipitation averages about 19 inches per year, most of which falls during the growing season. The precipitation which falls in the autumn, winter and spring normally falls at a slow rate and over relatively long periods, with individual storms covering most of the area. Summer precipitation is generally of the thunderstorm type and usually covers only part of the county. This precipitation comes as short, hard showers and a large fraction of this rainfall is lost as runoff or accumulates in the landlocked, low-lying areas characteristic of the flat areas. The climate can be classified as dry sub-humid, where there is no surplus moisture. Low crop yields occur when there is little carry-over sub-soil moisture entering the growing season followed by sub-normal spring and summer precipitation.

SOILS

The soils vary from sandy loams to silty-clay loams. Some of the more permeable soils include the Beotia silt loam, the Eckman loam, the Houdek loam, the Bonilla loam, and the Great Bend silt loam, and the Hecla sandy loam. The less permeable soils include the Aberdeen silty-clay loams, the Harmony silty-clay loam, the Nahon silty-clay loam and the Exline Complex. Some of the soils, such as the Aberdeen, are underlain with a silty-clay loam with permeabilities ranging from 0.06 to 0.2 inches per hour. Precipitation falling in the spring often

Mr. Martin Weeks, 8 December 1975

Page 2

results in inundation of large areas for prolonged periods of time, delaying spring work. The Exline Complex has a slowly impermeable layer at about four inches, and the adverse drainage characteristics of the Aberdeen soils are magnified in this soil.

Layers of slowly permeable lenses are also found below the root zone in some of the more permeable soils, thus impeding downward movement of water. More complete information can be found regarding these soils in the Soil Survey of Spink County Bulletin 439, published by the Agronomy Department Agricultural Experiment Station in 1954. Even more detailed information can be found of the established series from the soil interpretation sheets available at the Soil Conservation Service in Huron, South Dakota.

Most of the top soils have a high available water capacity which ranges from 0.13 to 0.22 inches per inch for the Aberdeen Series.

These soils contain high percentages of soluble salt, ranging from 0.15 to 0.65 percent. The higher concentrations occur near the bottom of the root zone in the medium to fine-textured soils which are predominantly the Aberdeen, Beotia and Harmony Series. The salinity is high in the Exline Complex and often the crop yields are low or non-existent in these soils.

The Spink County Soil Survey report states that a salinity concentration of 0.15 percent can be harmful to plants. Agriculture has prospered in Spink County because rainfall, which contains very low mineral content, has been entirely relied on for growth of plants and downward movement of salts. Addition of water containing 500 mg/l of total dissolved solids (TDS) in the West Lake Plains and 1200 mg/l in the East Lake Plains may alter the delicate balance upon which plant growth depends.

Dr. DeBoer's quality analyses of the effluent from the drains on the Redfield Farm indicate that the total dissolved solids (TDS) range from 3000 to 4500 mg/l. The concentration of TDS has remained in this range since the tile was constructed, i.e., no reduction in TDS has been observed in the drain effluent.

IRRIGABILITY OF SOILS

The large percentage of silt in the topsoil of most of the soils will make irrigation by sprinkler difficult where the soil is exposed. Puddling of the surface will slow the intake rate which is already low. Use of large pivot irrigation systems will generally not be successful because of the large application rates of water. The application rates can be lowered sufficiently with other types of sprinklers.

Ditches associated with gravity irrigation systems will cut up the areas into smaller plots, decreasing the efficiency of the highly mechanized farming now being practiced. Also, the flat terrain will require abnormally high elevated irrigation ditches in order to maintain reasonable hydraulic gradients from one end of the area to the other.

The construction of the laterals and numerous ditches associated with a gravity irrigation system will materially alter the time and expense of farming in the Lake Plains area. Going to the more mechanized center pivot system is also expensive and is not likely to be satisfactory except on those crops with a good ground cover and higher infiltration rate.

A substantial portion of the lands designated as irrigable are fine-textured soils which do not meet the USBR's criteria for permeability and infiltration rates. The USBR anticipates irrigating these soils pursuant to deep plowing, which has sometimes demonstrated an ameliorating effect on certain soils. Sometimes, however, these deep plowed soils revert to their original state. The most important soils of the Lake Plan soils are the "A" and "B" horizons which contain most of the organic matter of the soil as well as the microbial activity needed to provide the optimum environment for plant growth. Turning this topsoil over and replacing it on top with the more sterile subsoils poses another question with deep plowing."

Whether the acreage designated for deep plowing amounts to 25,000 acres or 40,000 acres, the deletion of this amount of acreage would adversely affect the economics of the irrigation project as a whole.

DRAINAGE CONSIDERATIONS

There are a number of problems associated with the drainage planning which the USBR has undertaken. These are discussed following:

1. Penetration of the water from the surface to the water table has been ignored. Although some infiltration tests were taken early in their investigations, no mention has been made of these investigations which indicated very low intake rates.

The farmers report areas of standing water in their fields after the spring snowmelt or after a wet spring. Thus, there are risks with 4-inch application rates on the Aberdeen, Harmony and Exline soils. Whether the application rate is one inch or four inches, the question arises as to what percentage is actually evaporated or transpired by the plant against the percentage which would move downward to the water table, thereby leaching salts downward. Because the TDS concentration of the irrigation water amounts to 500 to 1500 ppm in the irrigation water, salinization would constitute a risk to the longevity and continued productivity of these soils. The risks are twofold. First, slow permeability of the substratum may prevent any significant water from reaching the ground water, a condition required to leach

salts out of the soil. Secondly, the substratum located three to four feet below the surface where the soluble salt concentrations are highest will have become saturated for the first time. Subsequent upward capillary movement of this water, now containing considerably higher salt concentrations, will evaporate or be transpired by the plants, thereby reducing plant yields. The accumulation of these salts near the surface would cause the eventual salinization of these soils. The rate of salinization would depend on the amount of salts moving upward. With salinization, decreased productivity of most crops would occur in the Exline, Harmony and Aberdeen soils.

2. The permeabilities of the soil in the 3-foot to the 12-foot range are highly variable, according to the USBR tests. Some of these permeabilities are satisfactory from a standpoint of reasonable drainage spacing. However, the variability of the permeability of the soil dictates that the drains accommodate those soils having the lowest permeabilities traversed by an individual drain to avoid water table build-up.
3. Under careful management and adequate subsurface drainage, soils such as the Beotia silt loams may be irrigated successfully for long periods of time with high quality irrigation water. However, the presence of laminated lenses below the root zone in some areas will act as an impediment to downward percolation, creating a temporary mound of water.

Whether or not these temporary mounds of water would result in a net upward movement of water or not is conjectural. However, the presence of the high concentration of soluble salts below the root zone, combined with the incremental salts in the irrigation water, does constitute a risk of salinization of these soils. The risks are greatest in the East Plains area, where the return flow to the James River, augmented by Missouri River water, is proposed. The use of this quality (1200-ppm) water would accelerate the salinization process.

4. Generally, there are not large contiguous blocks of the most permeable soils. Often the less permeable soils are present in the same fields with the more permeable soils. Good irrigation management for the Beotia soil, for example, may result in rapid salinization of the more common Aberdeen soil. The resultant patch quilt like fields might eventually alter the economic viability of farming since the overall average yields per acre may decrease.
5. There are many large areas within the boundaries of the District which have been petitioned out of the project. According to the USBR, these areas will be protected by constructing pipe drains around the perimeter. However, the ground water will rise up as a minimum to the level of constructed drains, which could vary from six feet below the surface to 12 feet from the surface. In the event that laterals cross these petitioned-out areas because of the topography, seepage from these laterals would cause the water table to rise further.

6. Surface drains are proposed to drain areas with potholes and other imperfectly drained areas. These surface drains would traverse out-of-project lands requiring a right-of-way through that property. Cutting up such lands would impose a burden on these farmers whether they are cash crop farmers or graze cattle on their lands.

SUMMARY AND CONCLUSIONS

Regardless of the spacing of the pipe drains in the subsurface drainage system of the proposed Oahe Lake Plains Irrigation Project, it is our opinion that the life of the project is limited for the following reasons.

1. There are few large blocks of well-drained soils. Rather, most sections of land and often quarter-sections of land contain several soil series, some of which may drain easily and others which cannot be drained at all, or with difficulty if irrigation water is applied.
2. Some of the dominant soil series such as the Aberdeen soils impede downward movement of water beyond the root zone. The Exline soil series is even more extreme. Water from rainfall or snowmelt often results in large shallow lakes where these soils are present.
3. Some of the soils which appear to have relatively satisfactory permeabilities often contain stratified layers below the normal root zone, which would cause a temporary water table. Upward capillary movement of water could adversely alter the salt balance in the root zone.
4. The normal annual precipitation of about 19 inches causes enough downward movement of salts to counterbalance upward movement of salts from below the root zone where the percentage of soluble salts is highest. Rainfall contains only a trace of salts in contrast to irrigation water from the Oahe Reservoir which is expected to contain about 500 ppm of total dissolved solids. In the East Plains, where water containing James River return flows will be mixed with Oahe Reservoir water, the mixture will have concentrations of total dissolved solids equal to 1200 ppm, according to their water quality model. In either case, the total salts added with pose an additional risk to the balance required for plant growth.

The risks are highest in the fine-textured soils. Perpetual downward leaching of salts in the most permeable soils is also not assured if the good management of irrigation is not practiced and where the subsurface drains are too far apart to maintain the water table sufficiently below the ground surface.

5. Irrigability of some of the fine-textured soils, designated as suitable for irrigation, depend on the success of deep plowing. Although experiments have been conducted with deep plowing in Idaho, California, and Canada, there is no evidence to support deep plowing as a method of permanently improving the permeability of soils.

Mr. Martin Weeks, 8 December 1975

Page

6. The Lake Plains area is a prosperous dry-farming area. The use of irrigation water in these areas for the purpose of increasing farm production can create difficulties in soil drainage and other areas as discussed in this letter. The effects need to be carefully evaluated and the appropriate design considerations be included to accurately assess these difficulties.
7. There are risks of water-logging the petitioned-out areas adjacent to the irrigated areas, especially if irrigation canals and laterals must cross these areas.

The Environmental Impact Statement by the USBR does not adequately address the inherent risks of the project as summarized above, nor do they weigh the possible adverse results of the irrigation project against the do-nothing alternative.

The irrigating of new lands such as with the Oahe Irrigation Project is a matter of national interest related to many factors such as food production capability in the future and balance of international trade. Additionally, salinity, regional prosperity and potential adverse environmental and social impacts are important considerations. An irrigation scheme which does not work well tends to create irreversible damage. The questions raised by the United Family Farmers are reasonable and need to be fully considered by the project proponents.

I would like to express my appreciation for the hospitality accorded to Dr. Evans and me by the United Family Farmers.

Very truly yours,

WRIGHT WATER ENGINEERS, INC.

By Ralph L. Toren
Ralph L. Toren

RLT:ej

cc: Dr. Norman Evans

751-27

BUREAU OF RECLAMATION'S INDEXING PRO-
CEDURES CONCEAL INFORMATION THAT WATER
RESOURCE PROJECTS ARE IN EXCESS OF THEIR
AUTHORIZED COST CEILINGS

FOURTEENTH REPORT

BY THE

COMMITTEE ON GOVERNMENT
OPERATIONS



FEBRUARY 26, 1976.—Committed to the Committee of the Whole House
on the State of the Union and ordered to be printed

U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON : 1976

IX. SUMMARY

FINDINGS

Congress has provided the Bureau of Reclamation with latitude to adjust project cost ceilings to take account of inflation. The Bureau of Reclamation has abused this discretion by adjusting cost ceilings for costs not subject to inflation.

The Bureau continues to index for inflation purposes costs for work which has been completed and is no longer subject to inflation.

The Bureau continues to index for inflation millions of dollars worth of completed work on the McClusky Canal and Snake Creek Pumping Plant features of the Garrison Diversion Unit resulting in a \$6.2 million overstatement of the authorized cost ceiling.

The Bureau continues to index preauthorization costs.

The continued indexing of the completed features of the Colorado River Storage Project and Fryingpan-Arkansas Project resulted in overstating the cost ceilings for both projects by \$168.6 million and \$19.7 million, respectively.

Bureau procedures allowed the use of a U.S. Department of Agriculture land index to update the authorized cost ceiling before the purchase of land. Bureau procedures precluded using the index to update the ceiling after land was purchased.

The Bureau includes non-Federal expenditures in the authorized cost ceiling while it excludes such expenditures from the estimated total Federal obligation.

The Bureau, contrary to its own procedures, continued to index costs for inflation purposes after the completion of a feature to which such costs applied.

The original Colorado River Storage Project authorizing legislation (P.L. 485, 1956) did not provide the Bureau authority to increase the project's cost ceiling by indexing for inflation.

The Bureau has unauthorizedly increased the cost ceiling for the Colorado River Storage Project by indexing, for inflation purposes, costs expended on portions of the project constructed pursuant to P.L. 81-485 in direct violation of that Act.

The Bureau's procedures call for separate cost indexes for (1) land, (2) construction, and (3) non-contract costs because different inflation factors apply in each category. Bureau officials violated this procedure by using a composite index for all three areas in computing the cost ceiling for the Colorado River Storage Project.

The Bureau of Reclamation violated its own procedures by failing to use current prices in computing the estimate of total Federal obligations for the Bonneville Unit of the Central Utah Project, resulting in a \$63.7 million understatement of project costs for FY 1976.

The Bureau of Reclamation's internal review of project cost ceiling and cost estimates is inadequate and has failed to identify and correct indexing errors in violation of Bureau procedures.

The Bureau of Reclamation plans to add a major new \$45 million feature (Leland Bench) to the Bonneville Unit of the Colorado River Storage Project without additional congressional authority.

The Bureau claims that the authorized cost ceiling for the Colorado River Storage Project, as indexed for inflation, using present Bureau procedures, is sufficiently in excess of the estimate of total Federal obligations to justify the addition of the Leland Bench feature. The Committee finds that this does not provide the Bureau with adequate authority to construct Leland Bench.

The Bureau practice of temporarily understating project estimates of total Federal obligations is employed to keep the project cost estimates within the current project authorized cost ceilings.

The Bureau temporarily understated the estimate of total Federal obligation for the Souris Loop section of the Garrison Diversion Unit by \$15.8 million to prevent cost estimates from exceeding the fiscal year 1976 authorized cost ceiling for Garrison.

Of the 35 projects recomputed by the Bureau using GAO's recommended procedures, and as corrected by the Committee, 19 were found to be in excess of their authorized cost ceiling, as established by law, by a total of \$675 million.

RECOMMENDATIONS

The Committee recommends that:

1. The Bureau of Reclamation eliminate the indexing of preauthorization costs from the authorized cost ceiling for all reclamation projects and revise the project data sheets accordingly.

2. The Bureau accurately report to the Congress as to project cost ceilings and estimated total Federal expenditures.

3. If at any time the estimated total Federal obligations, incurred or to be incurred, to complete a project exceed the authorized cost ceiling as adjusted for ordinary fluctuations in costs, the Bureau should consider (1) restructuring the project to reduce project costs without causing substantial change in project benefits or (2) going back to the Congress to seek legislation permitting a higher authorized cost ceiling.

4. The Bureau revise its indexing procedures to prevent the indexing of expended funds from improperly increasing the authorized cost ceiling computation.

5. The Bureau adjust authorized cost ceilings for all existing and future projects by eliminating from a project's cost index expended funds on an annual basis.

6. Indexing an item be stopped when the original estimate for that item as indexed is exceeded by the actual expenditure or when the work on that item is completed.

7. The Bureau continue the practice it commenced this fiscal year of reporting the authorized cost ceiling for each project on the project data sheets provided to the appropriate committees of Congress.

8. The Bureau prepare and provide on an annual basis to the appropriate committees of Congress summary data on project costs and cost estimates showing: project identification, citation and date of authorizing legislation, amount of original authorization, the increase due to indexing, the increase due to legislation, the total amount to be appropriated, and the estimated total Federal obligations.

9. The Bureau's procedures be revised to prohibit the substitution of actual land costs for land costs based on the original estimate as appropriately indexed.

10. The Bureau revise its procedures to require the exclusion of non-Federal expenditures from the authorized cost ceiling computation at the same time the applicable costs are excluded from total Federal obligations.

11. The Bureau of Reclamation promptly review and recompute authorized cost ceilings for all other reclamation projects for fiscal year 1977, eliminating all costs resulting from inflation indexing of completed project features in compliance with the Bureau's own procedures. The FY 1977 project data sheets should be revised to reflect any necessary corrections.

12. The Bureau of Reclamation discontinue the use of composite indexes and comply with its own procedures by employing separate cost indexes for (1) land, (2) construction, and (3) non-contract costs.

13. The estimate of total Federal obligations for the Bonneville Unit of the Colorado River Storage Project be recomputed to reflect the most current prices available. The fiscal year 1977 Project Data Sheets for CRSP should be revised accordingly.

14. The Secretary of the Interior promptly develop detailed procedures for indexing authorized cost ceilings and estimating project costs which contain specific criteria and are in sufficient detail to assure uniform application and provide a basis for internal review to determine compliance. Also, the procedures should set forth the specific requirements for internal review.

15. Procedures be developed by the Bureau of Reclamation to guide regional officials in determining when a necessary change in a project plan as authorized by Congress is of sufficient magnitude to require additional congressional authority to plan and construct. These procedures should first be submitted to this committee and other appropriate congressional committees for review and comment.

16. The Bureau of Reclamation halt all planning and construction on the planned Leland Bench feature of the Bonneville Unit of the Colorado River Storage Project until such time as Congress has specifically authorized and approved its construction.

17. The Bureau of Reclamation discontinue use of the temporary understatement or any other indexing method being used which may result in an understatement of estimates of total Federal obligations for construction projects.

18. The Congress consider legislation which would clarify the extent to which the Bureau of Reclamation may adjust cost ceilings to account for inflation.

DEPARTMENT OF THE INTERIOR, BUREAU OF RECLAMATION—Continued

DATA ON AUTHORIZED RECLAMATION PROJECTS WHICH REQUIRE ADDITIONAL APPROPRIATIONS TO COMPLETE CONSTRUCTION, FISCAL YEAR 1977

[Based on method referred to in Dec. 11, 1975, letter from Congressman Moorhead to J. O. Horton, Assistant Secretary of the Interior, amounts in dollars]

State project and units (1)	Citation and date (2)	Amount of authorization (3)	Increase due to indexing (July 1975) (4)	Increase due to legislation (5)	Total author- ized to be appropriated (6)	Estimated total Federal obligations ¹ (7)	Allotments to June 30, 1975 ² (8)
UPPER MISSOURI REGION							
Various: Pick-Sloan Missouri ¹⁰ Basin program.	Public Law 92-371, August 1972.	792,130,917 plus ¹¹ 114,000,000 equals 906,130,917.	58,230,000	(17)	964,360,917	(January 1975) 930,483,908.	821,807,992
North Dakota: Garrison Diversion Unit.	Public Law 89-108, August 1965.	207,000,000.	245,132,000	19,308,000	471,440,000	(January 1975) 495,792,034.	86,846,687
Garrison Diversion Unit, Minot Extension.	Public Law 91-415, September 1970.	12,900,000.	9,550,000	(13)	22,450,000	(January 1975) 22,000,000.	3,199,955
South Dakota: Oahe Unit.	Public Law 90-453, August 1968.	191,670,000.	204,060,000	(11)	395,730,000	(January 1975) 410,000,000.	12,307,716
Wyoming: Riverton Unit.	Public Law 91-409, September 1970.	12,116,000.	8,554,000	(11)	20,670,000	(January 1975) 19,500,000.	2,364,508
LOWER MISSOURI REGION							
Trippigan-Arkansas project.	76 Stat. 389, Aug. 16, 1962, amended by 88 Stat. title XI, Public Law 93-493, Oct. 27, 1974.	432,000,000.	72,481,000	80,997,000	585,478,000	(January 1975) 539,978,000.	208,464,795
Nebraska: Pick-Sloan Missouri Basin program, North Loup Division.	86 Stat. 964, Oct. 20, 1972.	79,500,000.	32,696,000	0	112,196,000	(January 1975) 111,720,000.	365,194
Pick-Sloan Missouri Basin program, O'Neill Unit.	86 Stat. 964, Oct. 20, 1972.	113,300,000.	46,498,000	0	159,798,000	(January 1975) 159,090,000.	728,093
Wyoming: Pick-Sloan Missouri Basin program, Glendo Road.	Title IX, Public Law 93-493, Oct. 27, 1974.	284,000.	76,000	0	360,000	(January 1975) 360,000.	0
Colorado: Pick-Sloan Missouri Basin Program, Narrowa Unit.	84 Stat. 830, Aug. 28, 1970.	68,050,000.	52,226,000	4,375,000	124,651,000	(January 1975) 137,000,000.	686,148

¹ As presented in fiscal year 1977 Budget Justification Documents.

² Not included in the fiscal year 1977 Budget Justification Documents.

³ Authorization did not allow increase by indexing.

⁴ Includes \$362,357,550 for Westlands water district and \$13,650,000 for San Luis water district Public Law 130 loan.

⁵ Includes \$111,080,639 for Westlands water district and \$4,927,498 for San Luis water district Public Law 130 loan.

⁶ Covers Public Law 93-291, 85 Stat. 174, May 24, 1974, National Preservation Act only.

⁷ Specific costs have not been identified as yet.

⁸ Includes portion of transmission division located in the Lower Missouri region.

⁹ Includes \$2,940,000 for Recreation and Fish and Wildlife Sec. 8 program.

¹⁰ Includes units located in Lower Missouri region that were authorized as a part of Public Law 92-371.

¹¹ Amount subject to indexing.

¹² Specific costs have not been identified as yet.

COST DATA FOR RECLAMATION PROJECTS WHICH REQUIRE ADDITIONAL APPROPRIATIONS (FISCAL YEAR 1977) SHOWING ESTIMATED TOTAL FEDERAL OBLIGATIONS AS ADJUSTED BY THE COMMITTEE TO JULY 1975, AND AMOUNT BY WHICH OBLIGATIONS EXCEED AUTHORIZED COST CEILINGS—Continued

State project and units (1)	Citation and date (2)	Amount of authorization (3)	Total authorized to be appropriated indexed to July 1975 (6)	Estimated total Federal obligations Corrected ¹ (7)	Estimated total Federal obligations Corrected ² (8)	Amount exceeds cost ceiling (9)
Various: Pick-Sloan Missouri Basin program	Public Law 92-371 August 1972	792,130,917 114,000,000				
		906,130,917	964,360,917	930,483,908(1-75)	936,352,496	
North Dakota:						
Garrison diversion unit	Public Law 89-108 August 1965	207,000,000	471,440,000	495,792,034(1-75)	517,874,717	46,434,717
Garrison diversion unit Minot extension	Public Law 91-415 September 1970	12,900,000	22,450,000	22,000,000(1-75)	23,015,155	565,155
South Dakota: Oahe unit	Public Law 90-453 August 1968	191,670,000	395,730,000	410,000,000(1-75)	431,475,084	35,745,080
Wyoming: Riverton unit	Public Law 91-409 September 1970	12,116,000	20,670,000	19,500,000(1-75)	20,424,798	

¹ As presented in fiscal year 1977 budget justification documents.

² Bureau data, corrected to July 1, 1975.

³ Includes unit located in Lower Missouri Region that were authorized as a part of Public Law 92-371.

⁴ Amount subject to indexing.

State project and units (1)	Citation and date (2)	Amount of authorization (3)	Total authorized to be appropri- ated indexed to July 1975 (6)	Estimated total Federal obligation ¹ (7)	Estimated total Federal obligations corrected ² (8)	Amount exceeds cost calling (9)
Colorado: Fryingpan-Arkansas project.....	76 Stat. 389, Aug. 16, 1962, amended by 88 Stat., title XI, Public Law 93-493, Oct. 27, 1974.	432,000,000	585,478,000	539,978,000(1-75)	557,879,497	.....
Nebraska: Pick-Sloan Missouri Basin program, North Loup division.....	86 Stat. 964, Oct. 20, 1972.....	79,500,000	112,196,000	111,720,000(1-75)	117,733,364	5,537,364
Pick-Sloan Missouri Basin program, O'Neill unit.....	86 Stat. 964, Oct. 20, 1972.....	113,300,000	159,798,000	159,090,000(1-75)	167,641,641	7,843,641
Wyoming: Pick-Sloan Missouri Basin program, Glendo Road.....	Title IX, Public Law 93-493, Oct. 27, 1974..	284,000	360,000	360,000(1-75)	379,440	19,440
Colorado: Pick-Sloan Missouri Basin program Narrows unit.....	84 Stat. 830 Aug. 28 1970.....	68,050,000	124,651,000	137,000,000(1-75)	144,361,104	7,361,104

¹ As presented in fiscal year 1977 budget justification documents. ² Bureau data, corrected to July 1, 1975.

**ADEQUACY OF LEGISLATIVE
AUTHORIZATION FOR THE SAN
FELIPE DIVISION, CENTRAL
VALLEY PROJECT, CALIFORNIA**

**Bureau of Reclamation: Authoriza-
tion—Bureau of Reclamation: Con-
struction—Bureau of Reclamation:
Findings of Feasibility**

The Secretary of the Interior has discretion to modify the physical features or plans of a Bureau of Reclamation project after Congressional authorization when the authorizing legislation only states what the general features of the project are to be and does not specifically incorporate any detailed feasibility report into the legislation. The Secretary cannot, however, deviate from the general plans or facilities specifically defined by Congress to be part of the project without obtaining the approval of Congress.

**Bureau of Reclamation: Authoriza-
tion—Bureau of Reclamation: Con-
struction**

When Congress places a cost ceiling in legislation authorizing construction of a project, the agency must obtain additional authority from Congress to continue construction of the project if it is projected that the cost ceiling will be exceeded.

**Bureau of Reclamation: Authoriza-
tion—Bureau of Reclamation: Con-
struction**

The Bureau of Reclamation is required to seek additional Congressional authority to continue a project at the earliest point in time that it determines the authorized cost ceiling will be exceeded so that Congress can determine whether

the project should be completed at the increased cost.

M-36903

July 31, 1978

**OPINION BY
OFFICE OF THE SOLICITOR**

May 1, 1978

**TO: ASSISTANT SECRETARY-LAND
AND WATER RESOURCES**

FROM: SOLICITOR

**SUBJECT: ADEQUACY OF LEGISLATIVE
AUTHORIZATION FOR THE SAN
FELIPE DIVISION, CENTRAL
VALLEY PROJECT, CALIFORNIA**

I. Summary

Your memorandum on this subject, dated Jan. 20, 1978, raises two questions concerning whether current project plans are consistent with Congress' authorization of the project. The first is whether the post-authorization modifications in the project plans are consistent with Congress' authorization, and the second is whether the projected increased costs of the Division have exceeded the authorized appropriation level, so that additional Congressional authorization is needed at this time.

I have concluded, based on the facts furnished by your office and the Bureau of Reclamation, that there is no current need to seek additional Congressional authority to complete the project. Current Bureau estimates indicate that the project can be completed within the currently au-

thorized appropriation level, although appropriations requested for this year will not exceed the present authorized ceiling. Both the appropriations and the authorizing Committees should be notified immediately that the Bureau estimates that the project cannot be completed within the present level of authorization. Legislation should be forwarded to increase the authorization of the project in line with current Bureau estimates. Until such time as the appropriations and authorizing Committees have had an opportunity to act based on such notice, the project should proceed on schedule.

II. Background

The San Felipe Division, Central Valley Project, California, was authorized by the Act of Aug. 27, 1967, 81 Stat. 174.¹ Sec. 1 of that Act provides:

For the purposes of providing irrigation and municipal and industrial water supplies, conserving and developing fish and wildlife resources, enhancing outdoor recreation opportunities and other related purposes, the Secretary of the Interior acting pursuant to the Federal reclamation laws (Act of June 17, 1902, 32 Stat. 338, and Acts amendatory thereof or supplementary thereto), is authorized to construct, operate, and maintain, as an addition to, and an integral part of, the Central Valley project, California, the San Felipe division. The principal works of the division shall consist of the Pacheco tunnel, pumping plants, power transmission facilities, canals, pipelines, regulating reservoirs, and distribution facilities. No facilities shall be constructed for electric transmission and distribution

service which the Secretary determines, on the basis of an offer of a firm fifty-year contract from a local public or private agency, can through such a contract be obtained at less cost to the Federal Government than by construction and operation of Government facilities.² (Italics added.)

The general purpose of the Act is to provide a supplemental water supply to an area south of San Francisco Bay consisting of portions of Santa Clara, San Benito, Santa Cruz and Monterey Counties. Water for the project will be pumped from the Sacramento-San Joaquin Delta and transported either through the Federal Delta-Mendota Canal or the California Aqueduct for storage in San Luis Reservoir. From that point the water will be transported beneath the Diablo Range by means of the Pacheco Tunnel, which terminates in the valley of Pacheco Creek, a tributary of the Pajaro River. At the terminus of the Pacheco Tunnel two canals will carry project water both north to the Santa Clara County area and south and west to the San Benito County area.

At the time of authorization a major project justification was that water use in the area was greater than water supply, and declining groundwater levels caused problems of land surface subsidence and salt water intrusion from San Francisco Bay. The project imports were planned to reduce agricultural, municipal and industrial demands on the groundwater supply and directly contribute to groundwater

¹ The authorization is codified in 43 U.S.C. § 616fff-1 through 43 U.S.C. § 616fff-7 (1970).

² 43 U.S.C. § 616fff-3 (1970).

recharge, thus alleviating or at least mitigating the groundwater overdraft condition.

III. Modifications in Physical Project Features

Since Congressional authorization, the overall purpose of the project has remained the same as described above. However, the actual engineering features originally planned to accomplish this purpose have been modified in many respects in the intervening years. These changes have developed in response to cost constraints, changed conditions and revised projections of water demand and availability.

It is not necessary to detail such and every modification made to the project plan since the Department submitted a feasibility report to Congress in Sept. 1966.^{*} Major modifications include: 1) reducing the length and capacity of the Pacheco Tunnel; 2) substituting conduits and tunnels for originally contemplated open canals; 3) substituting the San Justo Reservoir for the previously planned Hollister and Hudner Reservoirs thus increasing the available storage in the project area; 4) changing the capacity and location of project pumping plants; and 5) deferring project service to the Watsonville subarea. Current project plans dif-

fer in these and other ways from those contemplated in the Feasibility Report which Congress had before it when authorizing the project. These modifications require a view of the legal effect of the project Feasibility Report and a comparison of it to the authorizing legislation.

First, the San Felipe authorizing Act did not specifically refer to House Document No. 500, 89th Cong., 2d Sess. The authorization simply, and generally, required the Secretary to construct "the Pacheco tunnel, pumping plants, power transmission facilities, canals, pipelines, regulating reservoirs and distribution facilities." The Act did not specify the capacities, locations or costs or any of these features. This suggests that Congress meant to accord the Secretary substantial discretion to modify the project features to fit changing needs, so long as the basic facilities Congress described were built to carry out the project purpose.^{*}

^{*}The authorizing language should be compared with other Congressional authorizations of Bureau projects; e.g., the Frylingan-Arkansas Project authorizing Act, 43 U.S.C. § 616 (1970), which directs the Secretary to build the project "in substantial accordance with the engineering plans therefor set forth in (the feasibility report) . . . with such minor modifications of, omissions from, or additions to the works described in those reports as he may find necessary or proper for accomplishing the objectives of the project; . . ." authorizing Act for the Auburn-Folsom South Unit, 43 U.S.C. § 616bbb (1970), which specifies the actual maximum height and capacity of the dam and reservoir in the legislation itself; and the authorizing Act for the Garrison Diversion Unit, 79 Stat. 433, Aug. 5, 1965, which authorizes construction of a development "substantially in accordance with" the Bureau's feasibility report.

^{*}See Report on the San Felipe Division, Central Valley Project, California, House Document No. 500, 89th Cong., 2d Sess., Sept. 1966, 43 U.S.C. § 435h (1970) requires the Secretary to submit this type of report to Congress prior to expending money for construction of new project works. See also 43 U.S.C. § 413 (1970).

This conclusion is supported by sec. 4 of the authorizing Act which provides:

Sec. 4. In locating and designing the works and facilities authorized for construction by this Act, and in acquiring or withdrawing any lands as authorized by this Act, the Secretary shall give due consideration to reports prepared by the State of California on the California water plan, and shall consult with local interests who may be affected by the construction and operations of said works and facilities or by the acquisition or withdrawal of lands, through public hearings or in such manner as in his discretion may be found best suited to a maximum expression of the views of such local interest.⁵

The intent of Congress reflected in this section is that the Secretary should plan the San Felipe Division works in consonance with the plans, views and preferences of the State of California and the local interests affected by the project. If Congress had intended to tie the Secretary to the project plans as set out in the Feasibility Report, it would have been meaningless to require the Secretary to provide for and respond to these forms of public participation in facility location and design decisions.

This discretion is, however, constrained by the plain terms and requirements of the Act as to what facilities shall be constructed—namely, “the Pacheco tunnel, pumping plants, power transmission facilities, canals, pipelines, regulating reservoirs and distribution facilities.” According to the Bureau of Reclamation, the general features mentioned in the authorizing Act

continue to be part of the project plan. Although substantial deviations from those general requirements, either by additions to or deletions from the project plans, would violate the Congressional authorization and purpose of the Division, the Bureau assures this is not the case. Therefore, I find the modifications authorized.

This conclusion finds support in reported decisions. For example, *Thatford v. United States*, 404 F.2d 301 (10th Cir. 1968), was a condemnation action initiated on behalf of the Secretary of the Interior in furtherance of the Arbuckle Project in Oklahoma.⁶ The landowners challenged the authority of the Secretary to take their land for the project.

They relied on the fact that the Feasibility Report⁷ specifically defined the areas surrounding the reservoir site which were to be acquired for recreational purposes and the defendants' land were without this area.

The language used in the Arbuckle authorization was similar to that used in the San Felipe Act.⁸ No specific reference to the Feasibility Report was contained in the Act. The court noted that the initiation of these projects had traditionally been by means of a letter

⁵ Authorized by Act of Aug. 24, 1962, 78 Stat. 395; codified in 43 U.S.C. §§ 616k through 616s (1970).

⁶ House Document No. 242, 87th Cong., 1st Sess.

⁷ The pertinent portion reads: “The project shall consist of the following principal works: A reservoir * * *, pumping plants, pipelines, and other conduits * * *.” 43 U.S.C. § 616k (1970).

⁸ 43 U.S.C. § 616f(1)-(4) (1970).

report from the Department to the Congress and found that the evidence in the record showed " * * * that such a report is merely a feasibility report and at most is only a tentative plan for the project being initiated." * * * 404 F. 2d at 302.

In dismissing defendants' argument that the taking was unlawful because defendants' land was outside the take line as shown on a map in the Feasibility Report, the court stated (404 F. 2d at 302):

" * * * The fallacy in this argument results from their use of the feasibility report to read into the Act restrictions that do not exist. All such projects must in some way be initiated for consideration by the Congress and it is appropriate for the Secretary of the Interior to take this first step after determining, by a preliminary examination of the proposed project, that the project is feasible and what the probable costs will be. In this determination, and in preparing the report, the Secretary must in a broad way define the project in terms of acreage and probable facilities. Nevertheless, the report is not a part of the Act and we believe it is inappropriate to use the report, or any other part of the legislative history, to arrive at an interpretation of the meaning of the Act. Such practice becomes necessary only if the act in question is ambiguous. The Act here is clear and unambiguous thus we find no reason to look behind the plain language of it. (citations omitted) "

* The court found additional support for its position, that Congress intended the Secretary to have discretion in determining the land needed for recreational purposes, in sec. 6 of the Act which limits federal costs for constructing the project " * * * to the non-reimbursable costs of the Arbuckle project for minimum basic recreational facilities as determined by the Secretary." 43 U.S.C. § 616p (1970). The fact that the Arbuckle Act on its

The *Thetford* case was an eminent domain proceeding. Courts traditionally have been very reticent to question the actual necessity or authorized purpose of a taking. *Berman v. Parker*, 348 U.S. 26, 75 S.Ct. 98, 99, L.Ed. 29 (1954). *United States v. Bowman*, 367 F.2d 768 (7th Cir. 1966); *United States v. 80.5 Acres, of Land, More or Less, in the County of Shasta, State of Calif.*, 448 F.2d 980 (9th Cir. 1971). As the court stated in *United States v. 2,606.84 Acres of Land in Tarrant County, Texas*, 432 F.2d 1286, 1289 (5th Cir. 1970): " * * * It is perfectly clear that the judicial role in examining condemnation cases does not extend to determining whether the land sought is actually necessary for operation of the project. * * * " Although the analogy to this case is therefore admittedly not perfect; nevertheless, the *Thetford* court's remarks concerning the status of the feasibility report, when the authorizing statute is nearly identical to the San Felipe Act, is supportive of the result we reach.

Other cases have evaluated situations when project plans were changed subsequent to authorization. Each of these cases has involved somewhat different authorizing language,¹⁰ and the differing

face contemplated the Secretary having discretionary authority is similar to the inference I draw above from sec. 4 of the San Felipe Act, contemplating public participation in final project facility location and design.

¹⁰ See n. 4, *supra*.

results reached suggest that a case-by-case review is necessary to make such determinations. Compare *Sierra Club v. Froehle*, 315 F. Supp. 440 (W.D. Wis. 1972);¹¹ with *National Wildlife Federation v. Andrus*, 440 F. Supp. 1243 (D. D.C. 1977);¹² see also, *Ryan v. Chicago B. & Q.R. Co.*, 50 F.2d 137 (7th Cir. 1932).

In San Felipe the Bureau of Reclamation is proceeding to build or plans to build all of the principal project features listed in the Act, and is not to my knowledge building any facilities not so listed. Giv-

¹¹ In this case the authorization Act stated that the Kickapoo Project "is hereby authorized substantially as recommended by the Chief of Engineers in House Document Numbered 657, Eighty Seventh Congress" The following changes had been made from the feasibility report plans: 1) the dam was enlarged from 71.5 feet high and 1440 feet long to 103 feet high and 3980 feet long; 2) lands to be acquired increased from 3000 to 9380 acres; 3) water surface area was expanded from 800 to 1780 acres; and 4) the storage capacity was expanded from 66,000 to 124,000 acre feet. The court found that the plaintiffs had "failed to show a significant chance of success" that the changes were unauthorized to justify a preliminary injunction, but a full decision on the merits was never made.

¹² In this case none of the authorizing Acts for the Navajo Indian Irrigation Project specifically mentioned a powerplant to be built in connection with the "concededly authorized dam and reservoir. See 43 U.S.C. §§ 620 and 61611-00 (1970). The original 1956 authorizing Act appeared to exclude a powerplant at the Navajo dam. Although a 1970 amendment to the authorization did not mention a powerplant, the Senate Committee Report on that amendment did mention that the project included a powerplant at the dam. S. Rep. No. 303 (91st Cong., 1st Sess. 1969) p. 2. The court held the powerplant was not authorized, noting that " . . . [w]here Congress has been specific in its authorization or lack thereof, the discretion of the officials is accordingly diminished. . . ." 440 F. Supp. at 1250. (The original 1962 authorizing legislation authorized a project "substantially" as proposed in the 1957 coordinated report of the Acting Commissioner of Reclamation and the Commissioner of Indian Affairs.)

en these facts, it is my judgment that the modifications in the San Felipe Division which have been made since 1967, and which deviate from those plans set forth in the feasibility report, are currently within the scope of the Congressional authorization, subject to the discussion below.

IV. Authorized Appropriation Ceiling

From the above, it is clear that Congress did not regard the feasibility report as having talismanic significance in constructing the San Felipe Unit. Congress did not, however, relinquish to the Department total control over project design and construction. Instead, Congress placed a limit, in the authorizing legislation, on the money which could be spent for the project. Through this cost ceiling, Congress retained the power to approve project changes which require spending more public funds than originally contemplated.

Specifically, sec. 7 of the San Felipe authorizing Act¹³ provides as follows:

Section 7. There are hereby authorized to be appropriated for construction of the new works involved in the San Felipe division \$92,380 (Oct. 1966 prices), plus or minus such amounts, if any, as may be required by reason of changes in the cost of construction work of the types involved therein as shown by engineering cost indexes and, in addition thereto, such sums as may be required to operate and maintain said division.

This sec. was added during Committee deliberations in both the

¹³ See 43 U.S.C. § 6169ff-7 (1970).

Senate and the House.¹⁴ Sec. 5 in the original bills as introduced in the House and Senate merely provided that "[t]here are hereby authorized to be appropriated such sums as may be necessary to carry out the provisions of this Act."

An explanation of the amendment incorporating the authorized appropriation ceiling was provided by Congressman Haley of Florida. During a hearing conducted by the House Subcommittee on Irrigation and Reclamation, the following colloquy took place between Congressman Haley and Congressmen Gubser and Edwards, primary sponsors of the bill in the House:¹⁵

MR. HALEY. Of course we are considering your bill H.R. 43, and if and when the committee comes to the markup of the bill, do you have any objections to putting the so-called Haley amendment on our section 5 to find out exactly how much this project is going to cost, rather than leaving this open end [sic] phraseology which authorizes any sums?

MR. GUBSER. I am not familiar with the provisions of the amendment, but I certainly am willing to abide by the wisdom of this committee.

MR. HALEY. The so-called Haley amendment merely puts a ceiling, where if these wild spenders that we have in this Department want to spend more money than we think they should, they have to come back to the committee and get additional authorization.

MR. GUBSER. I might say, Mr. Haley, that a number of amendments have been suggested by the Department and were suggested in the Senate, and the local interests are thoroughly familiar with them and approve of the amendments which the Department has suggested.

MR. HALEY. I might say apparently the various departments downtown are beginning to recognize that the Congress should know how much these projects are going to cost and they are even beginning to put it into amendments that they send up here along with the bill.

There was no objection to Congressman Haley's amendment and it was subsequently adopted by the full Congress. The intent of the ceiling is clear. Congress demands the right to decide whether to continue a project which cannot be completed within the authorized cost ceiling.

The precise issue involved here is when Congress should be notified that the cost ceiling is likely to be exceeded. It is not open to question that before money in excess of the ceiling can be spent, additional authority must be obtained. But may the Bureau wait until the point at which the ceiling is about to be exceeded before asking Congress for additional authority? Is it obligated to seek additional authority from Congress at the earliest possible moment it estimates that the cost ceiling will be exceeded? Based on the reasons set out below, I conclude that the purpose of the so-called "Haley amendment" is best served if the Bureau is required to seek additional Congressional au-

¹⁴ See Senate Report No. 292 (90th Cong., 1st Sess.) pp. 5-7; House Report No. 823 (90th Cong., 1st Sess.) p. 6.

¹⁵ See Hearings before the Subcommittee on Irrigation and Reclamation of the Committee on Interior and Insular Affairs, House of Representatives (90th Cong., 1st Sess.) on H.R. 43 and related bills; pp. 17-18 (Italics added).

thority at the earliest point the Bureau's calculations reflect that the statutory cost ceiling will be exceeded.

The record of planning and development of the San Felipe Division reflects two things: (a) continuous cost escalation, and (b) corresponding adjustments in project design in an attempt to maintain the estimate of total federal obligation¹⁵ within the authorized cost ceiling as indexed for inflation. In spite of these efforts the most recent calculations by the Bureau of Reclamation indicate that while the appropriation ceiling for the San Felipe Division, as indexed, is \$192,225,000, the estimate of total federal obligation is \$200,311,000. Thus the cost ceiling will be exceeded by more than \$8,000,000 under current projections.

With the exception of Congressman Haley's expressions of the purpose of his amendment,¹⁶ no direct legal authority defining the Secretary's obligation with regard to project expenditures has been found. Certain indirect guidance can be found in 31 U.S.C. § 665 (1970). This statute, commonly referred to as the Anti-Deficiency Act, has a long history and reflects how Congress has exercised control

over the Executive Branch through control over the purse strings. Simply put, the effect and intent of the Anti-Deficiency Act is to prohibit government officials from making binding contractual commitments for a given purpose which exceed the amount of funds appropriated in the current fiscal year for that purpose. It has been generally held that the statute makes a nullity any attempt by a government agency to create a binding contractual commitment in the absence of the authority of an adequate and existing appropriation. See *Robert F. Simmons and Associates v. United States*, 360 F. 2d 962 (Ct. Cl. 1966) and *Hooe v. United States*, 218 U.S. 322 (1910). This suggests that, at a minimum, government officials must be very cautious in deciding to approve expenditures where the authority to do so is in doubt.

This limitation, together with the purposes of the limitation in the San Felipe authorizing Act, define the Bureau's obligations regarding when additional authority should be requested from Congress.

The San Felipe Act requires the Secretary to construct certain facilities and fulfill certain general purposes in the area to be served by the project. As stated earlier the Secretary is bound to carry out the purposes of the Act as defined by Congress and lacks the discretion to alter, exclude or add to the stated purposes. The authorized appropriation ceiling is a flat Congressional requirement that, unless Congress subsequently provides other-

¹⁵ This is the sum of (a) the expenditures to date and (b) the estimated cost to complete the project.

¹⁶ It should be emphasized that Congressman Haley said that the limitation applies when Departmental officials "want to spend more money than we think they should." See p. 843, *supra*. Regardless of whether the Bureau "wants" to spend money above the ceiling, its current estimates show that it will exceed the ceiling.

wise, the stated purposes must be accomplished within that fiscal limitation. That this requirement is conceded as binding is reflected in the Bureau's efforts over the past few years to modify the project design to stay within the ceiling, while at the same time fulfill the project purposes as defined by Congress.

It now appears that project modifications have been unsuccessful in keeping costs within the ceiling. Current estimates of total federal obligation exceed the authorized appropriation ceiling as indexed for inflation. In these circumstances, hold that, once the estimates exceed the authorized appropriation ceiling, as indexed, the appropriations and authorizing Committees should be notified immediately and the Bureau should request an increase in the authorized ceiling in order to give the Congress the opportunity to determine whether the project should be completed at the increased cost level. This additional authority should be sought at the time it is first determined that the estimate exceeds the ceiling, regardless of the amount of appropriations actually made for that project.

To do otherwise would make the Haley amendment a hollow act. If the spending agency waits until the ceiling to the whole project is about to be exceeded before informing Congress of cost overruns, Congress, and particularly the committees which initiated the legislation authorizing the project in the first

place," have little opportunity to make a reasoned choice about whether the additional expenditures are merited. The Congressional control over project expenditures which furnishes the whole purpose of the cost ceiling requirement would be frustrated.

Expressed another way, Congress did not authorize the San Felipe project to carry out certain purposes regardless of costs. Rather, it authorized the project only if the cost were kept within acceptable limits. Once it is estimated that the project cannot be completed within those limits, Congress must be given an opportunity to reassess the costs and benefits and make a new decision about the project's future. To do otherwise would effectively read the cost ceiling out of the law, because the equities shift in favor of completing the project the more money has been spent on it and the more facilities have been completed. Congress must be given a real rather than an essentially hollow choice in deciding whether to continue, and this requires a Congressional decision at the earliest possible date.

In the case of the San Felipe Division the current estimate of total federal obligation now exceeds the authorized appropriation ceiling by at least \$8,000,000. Although

¹⁰ It is important to note that, in describing the effect of his amendment, Congressman Haley emphasized that if the ceiling is to be exceeded, the Department must "come back to the committee [i.e., the authorizing committee] and get additional authorization." Quoted in full at p. 343, *supra* (italics added).

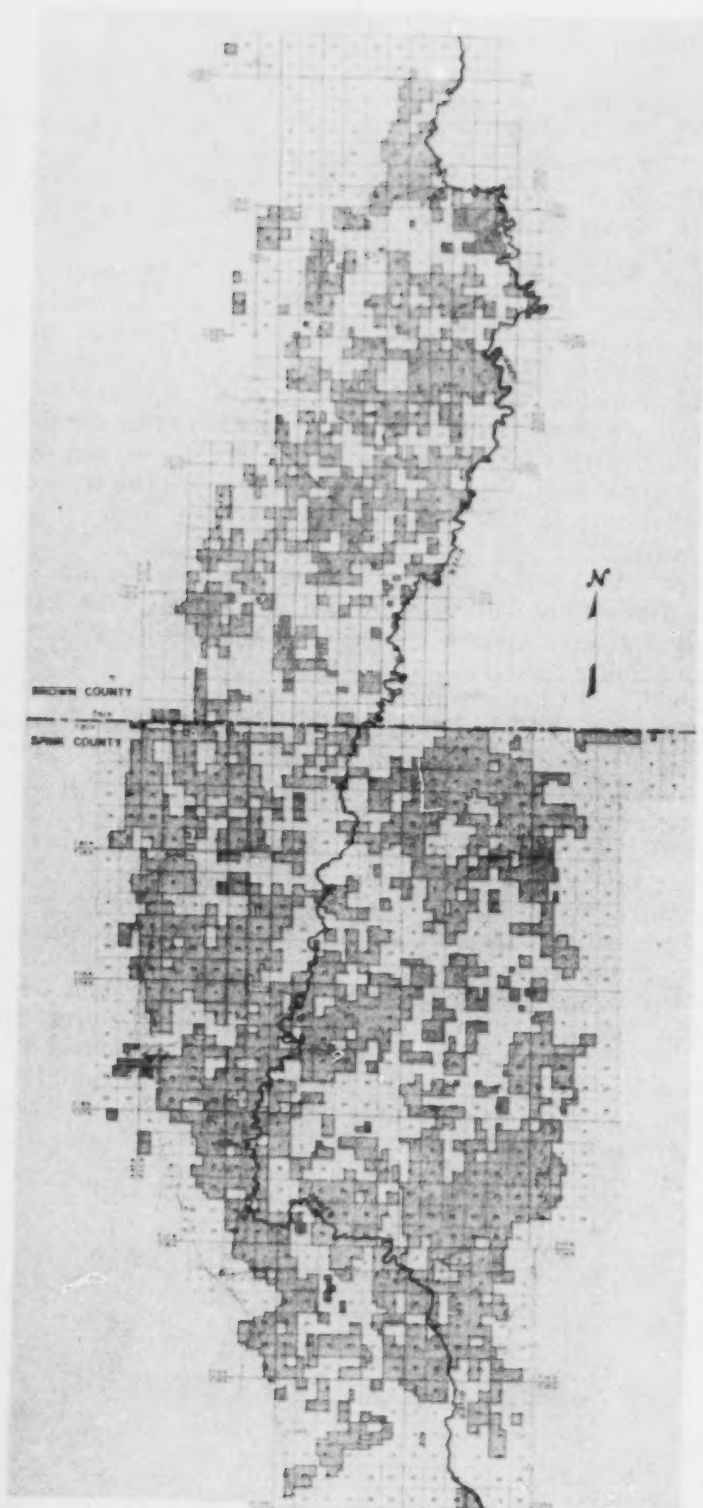
it might be argued that it is too early to tell whether this condition will persist in view of pending construction contract negotiations and other uncertainties, it is my opinion that this estimated overrun is significant enough that the purpose of the Congressionally established cost ceiling requires that Congress be given an opportunity now to decide whether to proceed by raising the cost ceiling.¹⁸

¹⁸ I must take note of the well-known fact that Bureau projects, like most construction projects in recent years, have often exceeded cost estimates. See, e.g., 2 Task Force on Water Resources and Power, *Report Prepared for the Commission on Organization of the Executive Branch of the Government*, table following p. 716 (1955); *Reclamation—Accomplishments and Contributions*, Legis. Reference Service, Library of Congress, 80th Cong., 1st Sess., Committee Print No. 1, pp. 47-48. (1959). In light of current difficulties

However, because we are dealing with estimates and cannot say with certainty in this case that the project cannot be completed within the existing authorization level, the project should continue on schedule until such time as the appropriations and authorizing Committees have an opportunity to act after notice of the estimated cost overrun.

LEO M. KRULITZ,
Solicitor.

with San Felipe, including unexpectedly high bids received for construction of a principal project feature (the Pacheco tunnel), I have no evidence before me that the Bureau's current estimates are wrong, and that the cost ceiling will not be exceeded. As noted above, the Bureau has attempted to redesign the project to stay within the authorized cost ceiling but its current estimates reflect that this effort has failed.



Senator MURKOWSKI. Thank you very much, Mr. Erickson. I think your testimony is particularly complete. I had an opportunity to glance through it during your presentation.

Ladies and gentlemen, I want to thank you on behalf of the chairman of the full Committee on Energy and Natural Resources, Senator McClure of the State of Idaho, the senior Senator from Idaho. I certainly thank you. Senator Abdnor thanks you. He had to be excused a few moments ago. And I feel that speaking for the other members of the committee, the presentations made here are outstanding. It makes a very fine record.

I feel that we have heard diversified testimony from people who are obviously extremely knowledgeable in what they are talking about.

You noted that particularly by design this hearing did not have a number of Government witnesses, at least from the Federal Government. It was primarily the people concerned. It represents an effort by the committee and certainly your congressional delegation to bring before you the availability of the committee so that we can hear your input and take that back and with the completion of the testimony develop a presentation in the formal record, which those of you who wish will be sent.

I am told that will probably be available within—I hesitate to say 3 months, but that's what I have been told. I was told 6 weeks usually, but evidently we have more material here than ordinarily occurs in a hearing. But that's good, because the material represents the opinions and the knowledge of the group that has testified.

I know that while I had a good briefing from Senator Abdnor and Senator Pressler prior to coming out here, that I formerly harmonized Oahe with something out in the Pacific, and I won't do that any more. There is no resemblance to Oahu.

And with that trite remark, I think it's best to conclude the hearing other than to say on behalf of the entire committee, we very much appreciate your participation. And I know Russ Brown and Susan will be busy compiling this. And again, I would like to recognize Fran Kunz, our court reporter.

It's been a pleasure to have spent the day with you, and I look forward to coming back in the not too distant future. With that, the committee is adjourned. I would again remind you that the record will be open for 2 weeks for anyone who wishes to submit additional material.

I thank you for your cooperation and your attention and the excellent presentations made here today.

The committee is adjourned.

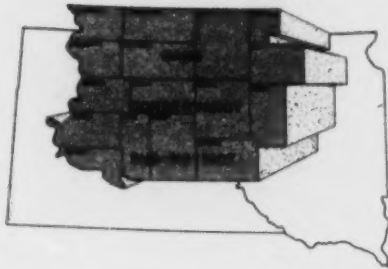
[Whereupon, at 6:15 p.m., the hearing was adjourned.]

APPENDIX

ADDITIONAL STATEMENTS AND COMMUNICATIONS SUBMITTED FOR
THE RECORD¹

EXECUTIVE COMMITTEE
 JOHN SIEN - Gretna
 Chairman
 LEONARD NAESSIG - Webster
 Vice Chairman
 ARNOLD SCHURR - Roscoe
 Secretary
 ROGER HANSON - Pollock
 Treasurer
 HAROLD HADRICK - Faulkton
 CURT HOHN
 Manager

422 Fifth Avenue, S.E.
 P.O. Box 1985
 Aberdeen, SD 57401
 Telephone: 605/236-1122



DIRECTORS
 RON FRANKENSTEIN - Redfield
 Spink County
 HAROLD HADRICK - Faulkton
 Potter and Faulk Counties
 ROGER HANSON - Pollock
 Campbell and McPherson Counties
 DALE HARGENS - Grant
 Hyde and Hand Counties
 KEN MARSH - Agar
 Sully and Hughes Counties
 LEONARD NAESSIG - Webster
 Day and Marshall Counties
 ARNOLD SCHURR - Roscoe
 Walworth and Edmunds Counties
 JOHN SIEN - Gretna
 Brown County
 THEODORE SPAULDING - Huron
 Municipal Director
 STEVE THORSON - Aberdeen
 Municipal Director
 IRVING W. JOSEL - Huron
 Beadle and Clark Counties

September 26, 1981

Senator Frank Murkowski, Chairman
 Senate Subcommittee on Water & Power
 3106 Dirksen Senate Office Building
 Washington, D.C. 20510

Dear Chairman Murkowski,

Enclosed, please find additional information which the Oahe Conservancy Sub-district would like to submit for inclusion in the official record of the hearing held by your Subcommittee September 12, 1981, in Pierre, South Dakota, on the question of Oahe Unit deauthorization and Senate Bill 1553.

The enclosed attachments further support the Sub-district's position as presented at the hearing. This letter will serve as a summary of the attachments and their relationship to the hearing and the issues at hand.

1. Of the 15 counties in the Oahe Conservancy Sub-district area, the Oahe Conservancy Sub-district has received official resolutions from nine (9) county Boards of Commissioners supporting deauthorization of the Oahe Unit. In addition, resolutions have been received from three (3) county commissions endorsing deauthorization hearings to resolve the Oahe question. Exhibit #1 are copies of news clippings and resolutions which document this statement.
2. In addition, the Oahe Conservancy Sub-district Board has received resolutions from other organizations in support of deauthorization, copies of which are included in Exhibit #2.
3. Exhibit #3 is a resolution the Sub-district received from the Beadle County Commission in support of various projects in the State Water Plan and utilization of Oahe Unit facilities.
4. Exhibit #4 is a copy of a resolution adopted by representatives of projects in the State Water Plan indicating support for deauthorization of Oahe Unit in return for funding consideration for projects in the State Water Plan.

¹ Material not suitable for reproduction retained in Subcommittee files.

(1102)
(1103) COMB 11

Senator Frank Murkowski
September 26, 1981

Page 2

5. Exhibit #5 are news clippings which indicate Senator Pressler's and Congressman Daschle's interest in supporting deauthorization legislation as part of a means to provide funding for the State Water Plan.
6. Exhibit #6 is a copy of a September 8, 1981, letter to Congressman Clint Roberts from Mr. David Stockman, Director of the Office of Management and Budget, expressing the Administration's position on various sections of the Bill (S-1553). In particular, Mr. Stockman states the Administration's opposition to retaining financial benefits grandfathered into the 1968 Oahe Unit authorization. We feel it should be included as part of the official record of the hearing.
7. The project datasheets submitted to Congress by the Bureau of Reclamation on Oahe Unit dated January 1, 1981, show that the total cost of the Oahe Unit has not been indexed or adjusted since 1977. Therefore, the project data sheets do not accurately reflect the total cost of the project, which was estimated by the Commissioner of the Bureau of Reclamation, Mr. Robert Broadbent, in May, 1981, as being approximately \$913,903,000. Exhibit #7
8. Exhibit #8 is correspondence between the Oahe Conservancy Sub-district, the Bureau of Reclamation, and the Office of Management and Budget. This correspondence indicates that the Office of Management and Budget agrees with the Sub-district's request that project costs be updated based on current costs so that any decisions made by Congress is based on current and accurate information.
9. It is the position of the federal government, as expressed by Mr. Stockman in his September 8, 1981, letter to Congressman Roberts, and as stated by Interior and Reclamation officials, that the investment of over \$40 million in Oahe Unit facilities expended by the federal government be reclaimed in some form. With regard to that position, the Sub-district would present Exhibit #9 which is a summary of the total cost of the project as of August, 1978, as stated in correspondence from the Bureau of Reclamation to the Sub-district. As the Exhibit shows, the total cost allocated to the project as of that date was \$38,261,000. Of that amount, 39.8% was listed under the category of "non-contract costs", or in other words, costs incurred by the Bureau of Reclamation involving investigations, design, salaries, study, travel, and other "non-construction" costs. We are not aware of how the cost allocated to Oahe increased from \$38 million in 1978 to the present \$41 million now represented by the Bureau of Reclamation. The Oahe Conservancy Sub-district does not accept responsibility for the costs incurred on Oahe Unit. As early as November 16, 1976, eight of the eleven members of the Oahe Conservancy Sub-district Board wrote members of

Senate Frank Murkowski
September 26, 1981

Page 3

the South Dakota Congressional Delegation and requested that construction contracts proposed to be released by the Bureau of Reclamation on Reaches 1A and 1B of the Pierre Canal not be let until the Sub-district Board had an opportunity to review the project. The Bureau of Reclamation Commissioner at the time, Gilbert G. Stamm, chose to disregard the Sub-district's request knowing full well that the makeup of the local contracting entity Board of Directors had changed considerably and that there were serious reservations with the project.

10. Exhibit #10 is a portion of the Oahe Unit Termination Study completed by the Bureau of Reclamation in February of 1980, which the Sub-district feels exaggerated the potential cost of reclaiming portions of the partially-constructed Pierre Canal area. For example, Table 18 shows that of the \$9 million in total cost estimated for restoration of Reach 1A of the Pierre Canal, 41% was estimated to be expended under contingencies, engineering, overhead, and other unlisted items which went beyond actual physical reclamation.
11. Table 19 shows that 36% of the total cost of restoring Reach 1B was estimated for engineering, overhead, contingencies, and unlisted items. Of the total 19,000 acres of land acquired by the federal government for Oahe Unit, approximately 18,800 acres could be sold back to the original owners without any restoration or reclamation work at all. On those some 14 miles of canal right-of-way where partial excavation had been initiated, virtually all of these lands could be returned with very limited reclamation. There are approximately 3.5 miles of canal right-of-way area where major excavation has been completed and where reclamation could be done on a site by site basis depending upon the original landowners desire to reclaim the land. Exhibit 11
12. At the hearing there was considerable discussion as to what the total water charge on a per acre basis would be for Oahe Unit. Exhibit #12 is a copy of a November 16, 1976, letter from the Bureau of Reclamation to the Manager of the Oahe Sub-district which is, to our knowledge, the most recent "estimated water charge" available on Oahe Unit. It shows that the estimated OM&R charge per acre would be \$11.85; the repayment per acre would range from \$4.70 on Class 1 land to \$2.85 on Class 2 land, and .65 per acre on Class 3 land. The total estimated water charge then would vary from \$16.55 to \$12.50 per acre. In addition, the letter states that the Sub-district would be required to levy a tax of \$17 million (which includes interest) for its obligations under Oahe Unit. Several letters dated January 4, 1977, and December 23, 1977, from the Bureau of Reclamation to the Sub-district spell out various obligations of the Sub-district to Oahe Unit under the Master Contract.

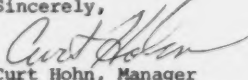
Senator Frank Murkowski
September 26, 1981

Page 4

13. Exhibit #13 is correspondence between the Sub-district and the Department of Interior regarding Section 3 of S-1553. The Bureau of Reclamation's August 3, 1981, response confirms the Sub-district's concern that Section 3(b) of the bill would not, as written, remove or delete any of the Oahe Unit features from the 1968 authorization.
14. Exhibit #14 is the position of the South Dakota Game, Fish & Parks with regard to Oahe Unit as presented to the Sub-district Board in official hearings April 14, 1977.
15. Exhibit #15 provides further information on the impact the Garrison and Oahe Units would have on the James River.
16. Exhibit #16 addresses areas of concern with Oahe Unit relating to "soils and drainage".
17. Exhibit #17 is the Oahe Conservancy Sub-district Board's January 16, 1978, resolution supporting deauthorization of Oahe Unit.
18. Exhibit #18 are several maps and summary sheets which show the relationship of the Oahe Unit Irrigation Project to the Oahe Conservancy Sub-district boundaries and the state of South Dakota. As presently authorized, the Oahe Unit Irrigation Project is located entirely within the legal boundaries of the Oahe Conservancy Sub-district.
19. Oahe Unit would result in additional unforeseen governmental and environmental responsibilities. For example, the E.I.S. states that special "mosquito control boards" would have to be established in each county crossed by project canals or served by project features. As Exhibit 19 indicates, insect control related to open delivery systems like Oahe can be involved.
20. Exhibit #20 is a summary of petitions received by the Sub-district in support of deauthorization.
21. Exhibit #21 outlines the Sub-district's concerns that state and federal officials have held closed meetings and negotiations concerning the Master Contract.

If you or other members of the committee desire additional background information on any of the items addressed in this letter, please feel free to contact us.

Sincerely,


Curt Hohn, Manager
Oahe Conservancy Sub-district

Exhibits retained in files.

TESTIMONY on S-1553
 Submitted by George Alberts, Jr., Chairman
 Lower Crow Creek Improvement Association
 September 12, 1981

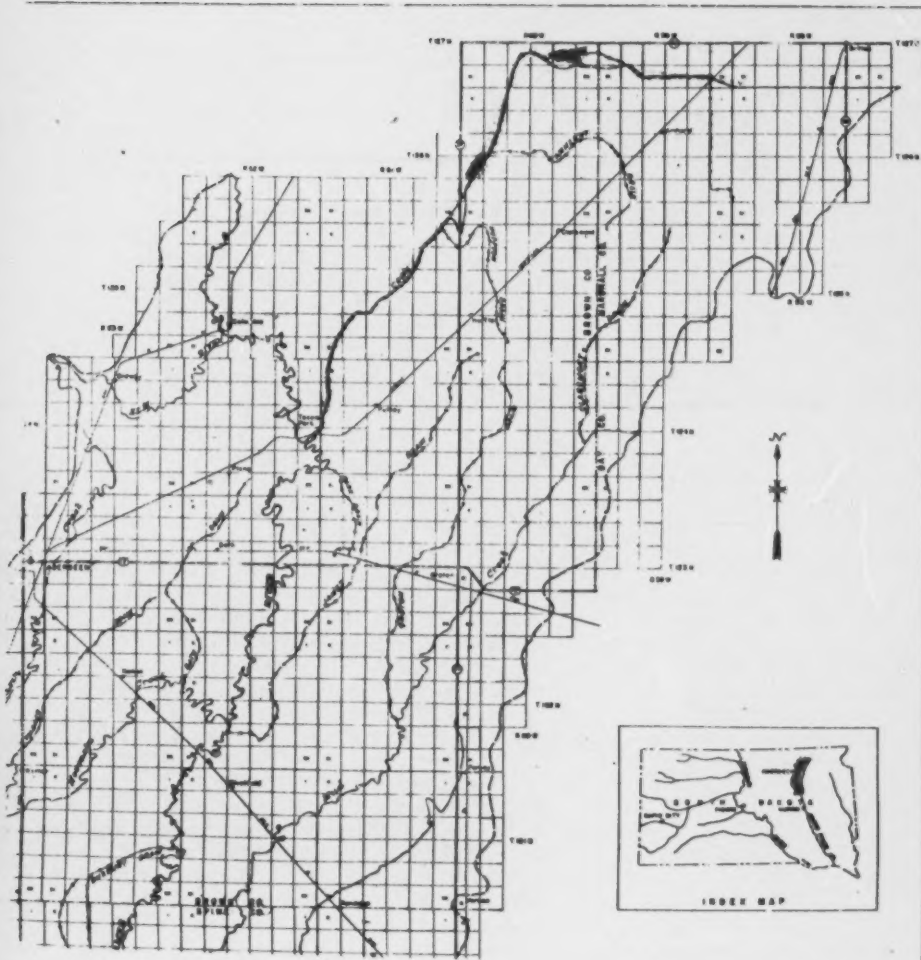
Thank you for the opportunity to submit testimony at this public hearing on S-1553 and the Oahe Irrigation Project and how it would affect the Lower Crow Creek Drainage area and my organization, the Lower Crow Creek Improvement Association. My name is George Alberts. I presently farm in Brown County, South Dakota and am Chairman of the Lower Crow Creek Improvement Association. Some background information on the Lower Crow Creek Improvement Association is appropriate to provide more understanding into my group's concerns regarding the Oahe Irrigation Project.

The Lower Crow Creek Improvement Association has been given the authority and the responsibility (by the Brown County Commission) to maintain and operate the Crow Creek Drain and its outlet gates into the James River. The Crow Creek Drain was established by court order in 1916. Spring runoff and heavy rains are drained off lands in northeastern Brown County and western Marshall County westward down the drain and into the James River. (A map has been attached to clarify the location of the Crow Creek Drain). Two watershed districts have been formed in the areas drained by the Crow Creek Drain. The Upper Crow Creek Watershed District comprises over 250,000 acres in the hill country of western Marshall County while the Lower Crow Creek Watershed District consists of 94,000 acres in eastern Brown County. Landowners in both watersheds, as well as those of my organization, have continually expressed their concern when the Crow Creek Drain cannot provide the drainage for which it was constructed. This occurs when James River flows are at high levels preventing water from drainage out of the Crow Creek Drain into the James River. In other words, the water level of the river is higher than the water level in the drain. Return flows from the Oahe Irrigation Project would keep the James River at such high levels that the Crow Creek Drain couldn't function. Not only would this impede drainage and back water onto some of Brown County's best cropland, but it would also violate the court order that created the drain. To alleviate this problem the Bureau of Reclamation, in a May, 1965, report entitled 'Report on Oahe Unit, Appendix F - Drainage', described a pumping facility that would be constructed at the location where the Crow Creek Drain enters the James River. On page F-46 the report states: "The Crow Creek Drain Pumping Plant lifts drainage flows from Crow Creek Drain into the James River during flood flows in the river". The report further indicates the pumping facility would contain 4 pumps with a total pumping capacity of 500 cfs. In 1968, however, the pumping plant was not included in Oahe authorization. The Bureau of Reclamation pointed out that the total number of irrigable acres in the project had been dropped from 445,000 acres in 1965 to 190,000 acres in 1968, and apparently the pumping plant was no longer necessary. My organization contends that even with the reduced figures a pumping plant is needed. We cannot support any project including Oahe that might pose blockage to the Crow Creek Drain.

Persistent additional flows on the James River such as those that would result from the Oahe Project and the extensive channelization proposed for the river by the Bureau of Reclamation pose another problem to landowners in our organization. Our land has a water table that can cause salting problems during periods of high precipitation or heavy runoff. If the water level of the James River is kept high to accommodate irrigation needs we fear that water tables on the adjacent lands (Lower Crow Creek Improvement Association lands) will rise and damage farmland. Since there is no recourse available to damaged landowners, our organization requests the Oahe Unit be deauthorized.

We also think S-1553 should be amended to delete any mention of the North Dakota Garrison Project. We do not agree with S-1553 implications that Garrison modification be a part of a Oahe Project settlement. North Dakota is seeking a drain for Garrison return flows; it should be their responsibility to satisfy South Dakota's needs for protection. We are concerned about Garrison flows because, as with the Oahe Project, the James River would be kept at a high level, preventing our legal drain from doing its job. A permanent pumping facility at the confluence of Crow Creek Drain and the James River would be an absolute necessity if Garrison begins draining into South Dakota. The interests of Crow Creek landowners and those of our State will be better served if Senator Abdnor would join with Senator Pressler and Congressman Daschle in their efforts to ask Congress to define and protect South Dakota's interests before any further construction of the Garrison Project is allowed. We believe North Dakota should provide written legally binding assurances to South Dakota that Garrison won't be operated to our detriment. South Dakotans must not forget that the mismanagement of the Jamestown and Pipestem Dams in North Dakota has prolonged flooding on the James River, damaging cropland and prevented our drain from working. There were never any written assurances made by North Dakota when those dams were constructed.

This is why written assurances must be received from Garrison and North Dakota officials before any further construction takes place.

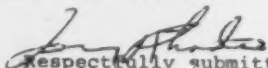


Testimony By
West River Conservancy Sub-District
Philip, South Dakota
for the
U. S. Senate Subcommittee on Water & Power Resources
September 12, 1981

Mr. Chairman and members of the Committee, the West River Conservancy Sub-District is comprised of eleven counties in western South Dakota stretching from the North Dakota border to the Nebraska border. The Sub-District is governed by nine elected officials with the office located in Philip, South Dakota.

The Board of Directors of the Sub-District has become very upset with the lack of progress in water development within the State of South Dakota. The reason being two-fold, number one is the lack of unity within the State and what to do with the Oahe project and number two is the bureaucratic red tape on the Federal level. The Sub-District feels that the number one problem has been eliminated with the State prioritizing it's projects and, recently, with Governor Bill Janklow stepping forward to take a lead role in water development. Senator James Abdnor and Congressman Clint Roberts have both introduced legislation which will be a step forward in eliminating some of the red tape for water development in South Dakota. Senate Bill 1553 and House Bill H.R.4347 are definitely a step forward in what is due South Dakota for the some 500,000 acres which were permanently flooded for the benefit of the Lower Missouri and Upper Mississippi River Basin areas. If I may add, the Sub-District Board is not for the deauthorization of the Oahe Unit but is strongly in favor of modification and Senate Bill 1553 and House Bill H.R.4347 provide for such an agreement. We strongly urge your support for these very important pieces of legislation.

Senator Abdnor and Congressman Roberts have also introduced legislation for the authorization of the Gregory County Pumped Storage Unit located in western South Dakota along Lake Francis Case. This particular project alone could save up to 6 million barrels of oil a year. This Unit would not only provide hydro-power for a six state region but could provide potable water for livestock and domestic use, municipalities, and for irrigation. Again, we ask for your support and the support of the U.S. Congress to authorize the Gregory County Pumped Storage Unit for immediate construction.



Respectfully submitted,
Jerry Rhodes, Manager

West River Conservancy Sub-District

Testimony to
Senate Interior Subcommittee
Water and Power Resources

September 12, 1981

Submitted by

Mr. & Mrs. Bill Fuller

Chairman Murkowski, and members of the Senate Interior Subcommittee on Water and Power. I wish to explain why I am in favor of deauthorization of the Oahe Unit Irrigation Project and why S-1553 should be amended to do that.

My name is Bill Fuller, I am a farmer in Clark County, South Dakota, which is on the far eastern edge of the Oahe Conservancy Sub-district. My wife and I have four boys, ages two through twelve.

There are a number of reasons why local farmers in the Oahe Sub-district area are opposed to the federal project, and I concur with the objections and reasons stated by my fellow farmers in other counties. I would like to center my objections to the Oahe Irrigation project around the aspect of it which affects me the most, that being the revised wildlife mitigation plan. This plan would have affected our farm and county tremendously. We are about 60 miles from the actual area proposed to be irrigated by Oahe. This area would have received no municipal water from the project nor would have we received irrigation. I am testifying and relaying my feelings, and that of my family, as well as other landowners and residents of Clark County who would have been similarly affected and feel the same way. We will receive no benefits from Oahe Unit. I realize that mitigation is a part of the federal law and that if the project is to be constructed mitigation will be required. However, I feel that the U.S. Bureau of Reclamation and the Fish & Wildlife Service really changed the rules in the middle of the game. The original plan called for acquisition of several large areas of wetlands to replace lands destroyed by the canals, reservoirs, and other features. In 1977, mitigation was completely changed, reverting to the acquisition of small tracts of land spread throughout the Sub-district.

Most of the land earmarked for wildlife mitigation acquisition was concentrated in the counties of Day, Beadle, Clark, and Brown. I feel the counties that were scheduled to get the benefits of the irrigation water should have also carried the burden of the mitigation. As I understand it, the Oahe Conservancy Sub-district Board surveyed landowners in the West Brown and Spink County Irrigation District asking them if they would accept a proportionate share of the wildlife mitigation, and the vast majority (over 80%) said they would not.

I feel strongly that those of us in Clark County were being discriminated against in this wildlife mitigation plan. We pay taxes which would have supported the repayment of the Oahe, and provide a larger share of the wildlife mitigation than most counties, and then we get absolutely no benefit. Our school districts would have suffered a loss in tax revenues. Our businesses in towns would be adversely affected with over 5,000 acres of prime farmland acquired for wildlife mitigation for the Oahe project. The loss of dollars as they are passed from person to person would be substantial.

It is quite plain that, we the people of the Oahe Sub-district, have really expressed our true concern and objections to the entire Oahe project through several local elections. Using the electoral process, the people have put the majority of the Directors on the Oahe Board and are maintaining them on that Board, who are opposed to the Oahe project.

I have participated in several Oahe Sub-district Board elections, on the local level, and I can tell you that it is unbelievable the amount of opposition that exists toward the Oahe project when you speak and visit with people all across the area. As near as I can understand, the only people who I have heard really campaigning for this project are construction interests, irrigation sales people, and politicians. Several municipalities have indicated an interest in domestic water, but I feel that need is entirely different than irrigation, and could easily be accomplished through the development of pipeline systems from the Missouri River or from well fields.

I would like to explain how this proposed wildlife mitigation would have affected my family. I own one quarter of farmland and rent some additional land. The land I rent is what is affected. This makes my potential loss even more acute, as the owner would receive some compensation payment when the land was acquired, I would receive nothing as the tenant and would lose the right to farm this land. I rent 320 acres from the St. Mary's Mission of Dunseith, North Dakota. Of this, one-half, or 160 acres, is proposed for acquisition for wildlife mitigation. Another 320 acres I rent from Mr. Edgar Brakke, of Clark, South Dakota. The federal government has identified 60 acres of this land to be taken as wildlife mitigation for Oahe. So you can see, the percentage of farmland I would lose out of my existing farm operation is substantial. It would take over one-third of the land that I rent. I need this land to provide for my family and to make my farming operation a practical unit. Given the low farm prices and the high production costs that we are faced with now, I need this land more than ever.

I do not want members of the committee, or Congress, to feel that I, or people in South Dakota do not enjoy and desire wildlife. I have done many things to enhance and improve wildlife that are compatible with my farming operation. Many of my neighbors have done the same. We have planted trees, have left areas of natural cover for wildlife, for nesting and habitat, and have

dugouts for livestock watering which serve as resting areas for wildlife. I have made a conscience effort to leave nests of ducks and pheasants unharmed and went around them with farm machinery on many occasions. In hard winters, I have bladed the snow from the ground to let pheasants and birds get natural food below the snow surface. I don't believe it is humanly possible to be an ardent livestock man and then be anti-wildlife.

Simply stated, I do not feel that the Oahe project can be justified given the amount of land it would take out of production not just for wildlife mitigation, but for canals, open reservoirs, laterals, and drains. Mr. Brakke and the Sisters of St. Mary's Mission join me in objecting to the Oahe project. They both stress that they will never be willing sellers for mitigation. I would also like to comment on the entire project as to the cost benefit. The yields and cost figures the Bureau of Reclamation used to justify the project are not realistic. Proposed yields under irrigation are far higher than comparable irrigation in the area, operation costs are underestimated, and dryland yields are underestimated. At \$600 million dollars total cost, and 190,000 acres of irrigation, the cost per acre would be near \$3,150. This is way too high to justify increased crop yields at a time when we have surpluses now that are driving farm prices down to an all-time low on a parity basis.

In conclusion, I strongly urge you to pass S-1553 to deauthorize Oahe Unit.

Bill Fuller
R.R. #1
Clark, South Dakota 57225

TESTIMONY

By Harold McRae
Kadoka, S. Dak.

FOR THE UNITED STATES SUB-COMMITTEE ON WATER POWER RESOURCES.

Sept. 12, 1981

Mr. Chairman and Members of the committee.

My name is Harold McRae, I am President of the Kadoka City Council, Water Commissioner and am Secretary and Treasure of the West River Rural Water Systems, Inc.

The proposed West River rural water Systems, Inc., cover Stanley, Haakon, Jackson and portions of Jones and Pennington counties in west River South Dakota. The communities it would serve would be Midland, Belvidere, Kadoka, Philip, Quinn, and wall. These towns all depend on deep wells for their water. These wells are from 2500 to 4000 feet deep. They tap different formations: Fall River, Inyan Kara, Lakota, Minnelusa, Dakota and Madison. Some of these wells flow at this time, they are mostly at the lower elevation. These wells are hot and run as high as 155° degrees Fahrenheit.

The water table is falling every year and the expense of pumping and cooling of the water from these wells is high.

At Kadoka just this year we have spent over \$26,000. to clean one well and replace pump and motor. Our #1 Well is 29 years old and the water table has dropped 195 feet. Our #2 Well is 15 years old and has dropped 60 feet since they were drilled.

This portion of South Dakota has always been faced with the problem of potable water.

In many of these wells the dissolved solids is considered to high to comply with US Public Health Standards for human consumption.

In the rural areas many of the farms and ranches depend on dams for stock water and shallow wells or ^{cisterns} systems for their drinking water. In the dry weather we have had these last 4 years a lot of the dams and shallow wells have gone dry. A great many people have had to haul water or sell off their livestock. Some dams due to the wet July this year have some water, there are still many that do not.

Some of the larger ranchers have drilled deep wells, for a cost of up to \$50,000. They are facing the same problems the towns are.

Some of these wells were flowing wells when they were drilled a few years ago. They now have to convert them to pumps. In the eastern part of this area most of the water from these wells, the water is not fit for human consumption. These people have to either distill their drinking water or haul it great distances and put it in a cistern.

We are proposing a water system that takes water out of the Oahe Dam and pump it west through out this area to supply the towns and rural areas with water for all household use, also for livestock drinking water.

Furthermore, the US Government has had a long standing moral commitment to South Dakota for some 500,000 acres that were flooded for the benefit of the Lower Missouri and Upper Missouri River Basin. I also understand some of the problems that have stymied water development in South Dakota.

Senator Abdnor Senate Bill 1553 could be a step forward for water development in South Dakota and I urge your support and the US Congress to support Senator Abdnors bill so we can start moving forward in water development.

STATEMENT BY JOE P. SCHOMER, Rt. #3, PIERRE, SOUTH DAKOTA 57501
HEARING ON OAHE PROJECT
UNITED STATES SENATE SUBCOMMITTEE ON WATER & POWER
SENATOR FRANK MURKOWSKI, CHAIRMAN
SEPTEMBER 12, 1981

Dear Senators:

As a canal landowner I would like to express my support for deauthorization of the Oahe Irrigation Project.

I feel the canal would take far too much land out of production to warrant what benefit might be derived.

I have been on this farm for 40 years. I finally got it built up to a fairly efficient unit. Then I had to sell PC# 17 to the Bureau for the canal, not at my price, but for their offer or have it condemned.

The Bureau of Rec. said my land wasn't suitable for irrigation - so the canal would be of no benefit to me, although it would go across my farm land and certainly subtract from the efficiency of my operation

The maintenance on this canal would certainly be a terrific cost. Canal water would not be the best surely for the cities either.

For these reasons I think the Oahe Project should be deauthorized. I would like my property back at the price I was paid, and the fencing material thrown in.

Sincerely yours
Joe P. Schomer

Joe P. Schomer
Route 3, Pierre S.D.
57501



Yankton area Chamber of Commerce

POST OFFICE BOX 988 YANKTON, SOUTH DAKOTA 57478 605/462-3628

TESTIMONY

MARIAN GUNDERSON, YANKTON CHAMBER OF COMMERCE WATER RESOURCES COMMITTEE
SENATE SUBCOMMITTEE ON WATER AND POWER
PIERRE CIVIC AUDITORIUM

SEPTEMBER 12, 1981

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE: MY NAME IS MARIAN GUNDERSON. I CHAIR THE YANKTON CHAMBER OF COMMERCE WATER RESOURCES COMMITTEE AND AM A MEMBER OF THE STATE BOARD OF WATER MANAGEMENT. I WOULD LIKE TO TAKE THIS TIME TO THANK THE COMMITTEE FOR COMING TO SOUTH DAKOTA TO GIVE THOSE OF US WHO ARE NOT ABLE TO ATTEND COMMITTEE HEARINGS IN WASHINGTON AN OPPORTUNITY TO EXPRESS OUR VIEWS ON THIS IMPORTANT TOPIC.

WE BELIEVE THAT SENATE BILL 1553 IS DEFINITELY A STEP IN THE RIGHT DIRECTION TO START FEDERALLY ASSISTED WATER DEVELOPMENT IN SOUTH DAKOTA. FEDERALLY ASSISTED WATER DEVELOPMENT FOR SOUTH DAKOTA IS LONG OVERDUE. IT WAS GUARANTEED TO SOUTH DAKOTA AND OTHER MISSOURI RIVER BASIN STATES IN RETURN FOR LANDS FLOODED BY THE PICK-SLOAN PLAN'S MAIN STEM DAMS. THESE DAMS WERE CONSTRUCTED TO CONTROL FLOODING ON THE MISSOURI RIVER.

SOUTH DAKOTANS UNSELFISHLY GAVE UP MORE THAN ONE-HALF MILLION ACRES OF PRIME FARM AND RANCH LANDS FOR THE FOUR MAIN-STEM DAMS. WE HAVE WAITED NEARLY FORTY YEARS FOR THE WATER DEVELOPMENT PROMISE TO BE FULFILLED.

NOW IS A CRITICAL TIME FOR WATER DEVELOPMENT IN OUR STATE. OUR MAIN INDUSTRY IS AGRICULTURE. FULLY 25 PERCENT OF OUR PEOPLE LIVE ON FARMS AND RANCHES. NATIONWIDE, THIS FIGURE IS LESS THAN FIVE PERCENT. UNDER CURRENT CONDITIONS, OUR ECONOMIC BASE CANNOT SURVIVE WITHOUT WATER.

IRRIGATION DEVELOPMENT FOR MANY AREAS OF SOUTH DAKOTA NEEDS TO BE REAPPRAISED USING MODERN IRRIGATION TECHNOLOGY. THOSE AREAS WHERE PROJECTS ARE DEEMED FEASIBLE SHOULD BE DEVELOPED.

SOUTH DAKOTA FARMERS MUST MAXIMIZE PRODUCTION ON REMAINING LANDS THROUGH IRRIGATION JUST TO COMPENSATE FOR LANDS LOST.

AS SECTION 1(a) OF THIS LEGISLATION ILLUSTRATES, IRRIGATION IS NOT THE ONLY WATER DEVELOPMENT NEED IN SOUTH DAKOTA.

THE WEB RURAL WATER DEVELOPMENT PROJECT WILL PROVIDE QUALITY WATER FOR DOMESTIC USE IN A LARGE AREA OF NORTHCENTRAL SOUTH DAKOTA. IT IS A VERY IMPORTANT PROJECT TO THOSE WHO WILL BENEFIT FROM IT.

WHILE YANKTON DOES NOT HAVE A DOMESTIC WATER PROBLEM BECAUSE OF ITS LOCATION, ITS CITIZENS SYMPATHIZE WITH THOSE WHO DO HAVE POOR QUALITY AND/OR INSUFFICIENT QUANTITIES OF WATER.

THOSE OF US WHO LIVE IN THE YANKTON AREA SUPPORT SENATE BILL 1553. WE WANT TO BE SURE THE COMMITTEE UNDERSTANDS THAT WE DO NOT CONSIDER THIS BILL TO BE ADEQUATE COMPENSATION FOR LANDS LOST BY THE CONSTRUCTION OF THE MAIN-STEM DAMS. WE BELIEVE THAT SECTION 2(a)(4) IS A VERY IMPORTANT PART OF THE BILL. IT WILL ALLOW THE STATE TO DETERMINE PRIORITIES IN WATER DEVELOPMENT PROJECTS.

MANY OTHER FACTORS ASSOCIATED WITH WATER DEVELOPMENT NEED TO BE ADDRESSED ACROSS THE STATE. MUNICIPAL AND INDUSTRIAL WATER PROBLEMS IN SEVERAL EASTERN SOUTH DAKOTA CITIES ARE BECOMING INCREASINGLY ACUTE. FUTURE WATER SUPPLIES IN MY COMMUNITY AS WELL AS OTHER RIVER COMMUNITIES MUST BE PROTECTED. SILTATION ON LEWIS AND CLARK LAKE ABOVE YANKTON HAS ALREADY CAUSED SERIOUS WATER DISTRIBUTION PROBLEMS FOR THE CITY OF SPRINGFIELD.

BANK STABILIZATION ALONG THE MISSOURI CHANNEL BELOW YANKTON SHOULD ALSO BE ADDRESSED. WITH MORE THAN ONE-HALF MILLION ACRES OF PRIME LAND ALREADY LOST,

WE CANNOT AFFORD TO LOSE MORE EACH YEAR.

FINALLY, THE WATER STUDIES NOTED IN SECTION TWO HAVE THE POTENTIAL TO IDENTIFY WATER QUALITY PROBLEMS AND SOLUTIONS TO INSURE THE QUALITY OF WATER FOUND IN SOUTH DAKOTA IS MAINTAINED AT ITS PRESENT LEVEL WELL INTO THE FUTURE.

SENATE BILL 1553 IS A START TOWARD LONG-RANGE WATER DEVELOPMENT FOR THE STATE.

THANK YOU.

Hitchcock, South Dakota 57348
September 12, 1981

Senator Frank Murkowski, Chairman
Sub-committee on Energy & Water

Dear Sir:

We would like to see Oahe Deauthorized for the following reasons.

If the Oahe project is completed, one of the proposed canals will cut through three (3) separate tracts of our land; about 400 acres in all, taking the best part of each parcel, and cause miles of extra travel over a highway with farm machinery, thereby creating hazards for us and general traffic.

The wild life mitigation taken from our remaining land will make the whole farm worthless. We could neither sell it or derive a living from it.

The cost of this project will put such a heavy tax burden on this area that the land could be forfeited to the underwriters, private or public.

In the 30 years we have been farming we have had to contend with surpluses as the reason for low prices. If this should be completed we would be in an even worse situation. Should this area ever produce a surplus crop we can expect nearly a dollar a bushel less for grain than at the terminal market because of transportation costs.

Beadle County, Altoona township Farmers,

Rich Herzberg
Norman Herzberg

Orient, S. D.
Sept. 7, 1981

Senator Frank Murkowski
U.S. Senate Sub-Committee on Water & Power
Washington, D. C.

Dear Sir:

Some 3 years ago the Oahe irrigation project died when a thorough study of it was made by a very concerned and thoughtful public. By this time deauthorization was long over-due; since it has been rejected by the greatest majority living within the affected area.

It seems the Bureau of Reclamation and the Army Corp of Engineers devulge in the diabolical practice of keeping as many people as possible, as sleepy as possible, for as long as possible.

I hear a lot about pushing this project to open up jobs for the people. If they were serious about this then build it with tiling spades, then we would all have jobs. Of course, this would do nothing for government kick-cacks, and the large construction companies.

One also keeps hearing this rhetoric about South Dakota being short-changed, and that we should hold out for more than the WEB project. I fear this is a way to sneak up on the blind side of the public. The way I understand it; we have to pay back all we borrow from the Government--plus interest. We aren't getting anything for nothing. The pushers would like us to believe we are.

Permit me to say a word about CENDAK if you will. The Oahe irrigation project has long been proven unfeasible for 15+ counties. Then how in the name of common sense can it be feasible for 6 counties? A 36 in. pipe laid between U.S. hi-way 14 and the railroad with 60 lbs. pressure will furnish all the water those 4 counties want to pay for. I'm sure the Chicago Northwestern can use the remuneration.

Yours truly
Alfred Bucher
Alfred Bucher

September 9, 1981

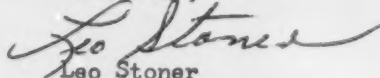
Dear Senator Frank Murkowski:

I am giving you this letter for the Oahe deauthorization hearings. I am opposed to the Oahe Project and I would like to see it deauthorized. My neighbors who live along the ditch have had to face problem after problem with the ditch. These problems would become greater if construction is started up again.

I also want you to know that I am opposed to any other use of the ditch. There has been alot of discussion about using the Oahe authorization for the CENDAK project. You must realize that just because you change the name doesn't mean that the problems that are associated with a ditch will go away. Also, the proposed CENDAK Project lacks support in Hughes County. The last time I heard, CENDAK had only about 14,000 acres signed into their project in Hughes County. Considering the fact that they have been telling people that the project will cost next to nothing, that canals will run along section lines, and that you can use the project for any purpose that you want, this proves that there is very little interest for a ditch in Hughes County. Also, people aren't as gullible as the used to be. They have learned alot from the people in this area who have dealt with the Oahe Project for years.

I hope that the committee will deauthorize the Oahe Project and prevent any other studies for the use of the ditch. The residents of Hughes County will be much better off if you take that course of action. Thank you-

Sincerely,



Leo Stoner

RR 3

Pierre, S.D. 57501

Senator Frank Murkowski
 Sub-committee on Energy & Water
 U.S. Senate Building
 Washington, D. S. 20510

Dear Sirs:

The past few years the controversy of Oahe and deauthorization of Oahe has almost been too much--and we're sure we're not the only South Dakotans that feel that way. If the Oahe irrigation project is not workable and apparently it isn't since the work has been halted, then do something else. It seems the taxpayers' money is being spent to no avail. The people of South Dakota deserve more than we have gotten in the way of useful water. All the folks interested in the rural water systems would appreciate a simple common sense be applied to their problems rather than the "mumbo jumbo" of political hassel. If it takes deauthorization of Oahe to insure a WEB water system then get on with the project or any other water project for that matter that would be of use to the South Dakota people.



Floyd W. Reidt
 RR 1 Box 262
 Onaka, South Dakota 57466
 Rancher/dairy farmer central S. Dak.

September 9, 1981

Senator Murkowski-

As residents of Hand County, we are asking that you deauthorize the Oahe Project and not provide funding for any future schemes to divert water from the Missouri River in a canal. South Dakota has suffered long enough by being forced to go without good water development. Delaying the deauthorization of the Oahe Project and providing funding to study other ways to use the canal will only further delay the development of good water projects.

Thank you for coming to South Dakota and listening to our feelings on the Oahe Project.

Respectfully yours,

Lloyd C Payne
Route 1, Box 20
Orient, South Dakota 57467

May Martinmeas
Route 1, Box 37
Orient, South Dakota 57467

Jae Martinmeas

R. 1, Box 39
Orient So. Dak. 57467

John Sprenger
Orient So Dak

Richard Martinmeas 57467

Miller So. Dak

Box 90 57462

SENATOR FRANK MURKOWSKI, CHAIRMAN
SUB-COMMITTEE ON WATER AND POWER
UNITED STATES SENATE
WASHINGTON, D.C. 20510

re-Senate Sub-committee Hearing on Oahe deauthorization
and S-1553

Positions taken by West Rondell township,
Brown County, South Dakota

A meetin of the tpwnship board of supervisors was held at the William Oliver home on April 21, 1974. After polling all the Agri-operators in the township and finding that 100% were against irriagation the board decided to adopt the following resolution.
 Mr. Virgil Locken, Chr.
 Brown County Irrigation Board
 Bath, South Dakota, 57427

Notice is hereby given that:

A poll of all the Agri-operators, living and farming, in West Rondell Township No. 121, Range No. 63, Brown county in South Dakota was taken on April 17, 1974, with the poll showing all Agri-operators opposed to irrigation. Facts considered: Cost-ratio aspect, Environmental Impact Statement, failure of the Bureau of Reclamation to fulfill their original agreement regarding the James River by informing applicants that flood control would be the first phase of the project. To date no plan for flood control on the James River seems forthcoming, thus nullifying the entire original agreement.

Therefore: Be it hereby resolved that:

The West Rondell Township Board, by unanimous decision, and representing all the Agri-operators in West Rondell Township No.121, Range No. 63, Brown County in South Dakota herby petitions that said West Rondell Township No. 121, Range No. 63, Brown County in South Dakota be immediately withdrawn from the West Brown Irrigation District in South Dakota.

Dated this 21st day of April, 1974.

West Rondell Township Board
 Brown County, South Dakota

Fred C. Fischbach, Chr.
 John B. Cain
 William R. Oliver

Paul Fischbach
 Paul Fischbach, Clerk

2

A vote was taken at the annual meeting of West Rondell Township on March 4, 1975 and the voters present voted unanimously to support a Moratorium on the Oahe Irrigation Project.

1. Because of social and economic impact.
2. Environmental impact statement is incomplete.
- 3 Failure of the Bureau of Reclamation to answer questions on the return flow.
4. The impact on land owners within the boudaries of original district who never had a vote and were told they would not be affected by the project and now find this to be untrue.
5. Also feasibility of the project

Paul Fischbach
Clerk of West Rondell Township

Paul Fischbach

3

At the annual township meeting and election held on March 7, 1978 John Cain made a motion to have a resolution that " West Rondell Township go on record to be in favor of de-authorizing the Oahe Irrigation Project. Tom Fischbach seconded the motion. The motion carried unanimously.

Paul Fischbach, Clerk

Paul Fischbach

New Hope Township
Mansfield, S.D. 57460
Sept. 10, 1981

Senator Frank Murkowski, Chairman
Sub-committee on Energy & Water
U.S. Senate Building
Washington, D.C. 20510

Subject: Oahe Deauthorization Hearings

Dear Senator Murkowski:

Enclosed is a Resolution passed by the Board of Supervisors of New Hope Township. The Board of Supervisors are concerned with the well being of the citizens of New Hope Township and support Deauthorization of Oahe Unit.

If Oahe Unit were to be built the losses to the Township would be devastating. The loss of two active farmsteads to wildlife mitigation, the loss of prime farm land to canals and wildlife mitigation, and the loss of revenue in the form of taxes.

The Board strongly supports deauthorization of the Oahe project. The threat of this project must be removed so we can move to more meaningful water resource development for our state.

Sincerely,

Milton Haselhorst

Milton Haselhorst Clerk
New Hope Township

I

WHEREAS the Board of Supervisors, being the governing body of New Hope Township, Brown County, South Dakota are concern about the effects the proposed Oahe Irrigation Project would have on the residence of said Township, and

WHEREAS the West Main Canal will cut through at least twelve quarters of land within the Township, and

WHEREAS New Hope Township would lose approximately 1,000 acres for Wildlife Mitigation, and

WHEREAS there would be the lose of two active farmsteads to Wildlife Mitigation, and

WHEREAS in addition the loss of revenue in taxes to the Township and school district would be devastating if Oahe was constructed, and

WHEREAS legislation has been introduced asking for deauthorization of the Oahe Irrigation Project, therefore

BE IT RESOLVED the Board of Supervisors of New Hope Township support legislation HB 5807 asking for deauthorization of the Oahe Irrigation Project.

II

WHEREAS the WEB Water Development Association enjoys local support from the residences of New Hope Township, and

WHEREAS the Federal Administration should provide assistance to the WEB Project in place of their comitment to the Oahe Project, therefore

BE IT RESOLVED the Board of Supervisors of New Hope Township support continued planning, development, and funding of the WEB Project.

Upon roll call vote all members voted aye.

Robert J. Bourhard Chairman

Daryl Burman Supervisors

Harold Nelson Supervisors

I, Ervin Bayne, a resident of Sully county hereby give written testimony on my position regarding the proposed Cendak-Oshe projects. First, I want to state, I am not against conservative, sensible water development. However, I am against all taxpayers financing a mammoth project that will benefit a few farmers.

Those proposing Cendak have adamantly stated they want the Blunt reservoir. This proposed reservoir was one of the obstacles hindering the Oshe unit. It took too much land out of production. Sully county was doomed to loose 42,000 acres to the project. We have lost a considerable amount in tax revenue since the Bureau of Reclamation started buying land. This year we lost \$26,665.96; if they had owned the full 42,000 acres we would have lost approximately \$57,000. Loss of revenue hinders essential services to the county; resulting in deflated pocketbooks for the private land owners.

The attached copy of a petition I circulated last January shows that concerned people are against a open ditch delivery system. Who needs more land erosion, stagnant water, mosquitos, encephalitis, and all maladies contracted from bodies of water? Adjoining landowners and the Blunt towns people would encounter problems caused from water seepage, since soil tests show the terrain is made up of gravel and sand. People living near the Garrison Diversion Project in N.D. are experiencing damage from water seepage. So, why should people surrounding the proposed Blunt reservoir have to endure hardships to satisfy people living in counties many miles away? They chose to live there! Move the Cendak-Oshe proponents to the Missouri River, instead of moving the Missouri to them!

The lower water level in the Oshe Dam, this Summer, should be a fore-warning--preventing wasted money on a gigantic project. If Cendak had been built, the farm irrigators would have been the first to get shut off.

With three million rural acres being lost to urban sprawls, highways, airports, and developers each year in the United States, South Dakota should not add 110,000 acres more to the list. Desauthorization of the Oshe Unit and nonauthorization of the Cendak proposal will help to save farm land.

Personally, I don't appreciate the idea of my neighbors and myself being pushed off our farms for the federal and state people to play Santa Claus to extravagant daydreamers.

Ervin Bayne

We see the plans of an open ditch delivery system as having the same objections as the original Oahe Project. Such as wildlife mitigation, land severance and land loss, which the people have rejected in the past. We feel these plans would only shift and continue the controversy and hinder any acceptable water development in the near future.

I swear that the persons listed above have signed this petition in my presence.

Dated this 26 day of Jan., 1981

PETITION

We the undersigned landowners or tenants object to the so called West Hughes County Irrigation proposed district. We therefore request and petition the Oshe Conservancy Sub-District Board to refuse the funding for studies by the West Hughes County Irrigator's Association in conjunction with the Cendak Water Supply System.

We see the plans of an open ditch delivery system as having the same objections as the original Oshe Project. Such as wildlife mitigation, land severance and land loss, which the people have rejected in the past. We feel these plans would only shift and continue the controversy and hinder any acceptable water development in the near future.

<u>Name</u>	<u>Address</u>	<u>Date</u>
H. Brown	Oshe, S. Dak	Jan 21 1981
Fred Bown	Oshe, S. Dak	Jan 21 1981
Jimmie Bown	Oshe, S. Dak	Jan 21 1981
Tim C. Fricker	Oshe, S. Dak	Jan 21 1981
Marvin Rivesness	Oshe, S. Dak	Jan 21 1981
Wm. Bown	Oshe, S. Dak	Jan 21 1981
Leahmy Bown	Oshe, S. Dak	Jan 21 1981
Mary Schmitz	Blunt, S. Dak	Jan 21 1981
Ed Schmitz	Blunt, S. Dak	Jan 21 1981
Nick Meyer	Harold, S. Dak	Jan 21 1981
Edgar Zett	Harold, S. Dak	Jan 24-1981
John Zett	Harold, S. Dak	Jan 24-1981
Elmer Jansen	Oshe, S. Dak	Jan 24-1981
Wm. Jansen	Oshe, S. Dak	Jan 24 1981
Donald Jansen	Oshe, S. Dak	Jan 24 1981
Edgar Klingstiel	Blunt, S. Dak	Jan 24 1981
Abel M. Warriner	Blunt, S. Dak	Jan 24 1981
John T. Tanager	Blunt, S. Dak	Jan 24 1981
Shirley Tanager	Blunt, S. Dak	Jan 24 1981
Nancy Tanager	Blunt, S. Dak	Jan 24 1981
Mike Tanager	Blunt, S. Dak	Jan 24 1981

I swear that the persons listed above have signed this petition in my presence.

Emm. Ranges
Name of petition carrier
Harold, S. Dak
Address

Dated this 26 day of Jan, 1981

Mansfield, S.D. k. 57460
Sept 9, 1981

Dear Mr. Kinsella,

Since I am unable to go to Pierre Saturday, please let this letter express what ~~Mr.~~ and I feel about irrigation.--Oahe irrigation, anyway.

We are very much against the Oahe project. Sure, we have a dry year occasionally, but so seldom that the cost and inconvenience of the irrigation set up would be much worse than a poor crop once every ten years or so. We haven't had a real drouth since back in the 1930's.

Besides, the cost-benefit ratio ~~is~~ as presently figured is way off base. And our country must stop spending money on projects that do more harm than good --as well as those which we self ~~ra~~lliant Americans can handle ourselves.

Our area is the best of all places to live. The more we see of the rest of the world the more we appreciate it right here. We do not want it spoiled! Let's get Oahe deauthorized so we can relax and quit worrying about it. No matter how many plans we get turned down, we can't feel safe. ~~Some~~ one from the money lending industry, the big earth movers or a government bureau always comes up with another idea.

Please, let's deauthorize Oahe and be done with it.

Sincerely,

Mr. W. E. Fulmer

Senator Frank Murkowski, Chairman
 Sub-committee on Energy & Water
 U.S. Senate Building
 Washington, D.C. 20510

Mr. Chairman and members of the committee:

I am Edwin Fischbach, a farmer from West Rondell Township, Warner, South Dakota. I farm in the West Lake Plain Area of the Oahe Project. I am opposed to Oahe because of the destruction of productive farmland, high cost, and long-term tax obligation. Therefore, I support the bill sponsored by Congressman Berkely Bedell calling for deauthorization of the Oahe Project. The Bedell Bill is the only sensible solution to a federal boondoggle like Oahe because the bill will finally release farmers from the fear of Oahe. The Bedell Bill also leaves the WEB pipeline, a worthy project, in the control of local people.

I do not support Senate Bill 1553 sponsored by Senator Abdnor, and I urge your rejection of that bill. Senate Bill 1553 does not deauthorize Oahe nor does it guarantee farmers safety from the affects of Oahe. In a letter to me dated September 4, 1981, from the U.S. Department of Interior, Acting Assistant Commissioner Aldon D. Nielsen states "... We can only give you our informal opinion at this time. We do not believe the bill as written would necessarily remove any features from the existing Oahe Unit authorization. . . ." Contrary to what Senator Abdnor may say, his bill does not protect the farmers like me in the West Lake Plain Area from being impacted by a project like Oahe which has been rejected over and over again. In addition, Senate Bill 1553 turns development of WEB away from local people into the hands of the Bureau of Reclamation. Local farmers do not favor this because of past experience with the Bureau.

As stated earlier, I am a farmer from West Rondell Township whose members have voted unanimously to deauthorize the Oahe Project. I believe the time has come to put this disaster called Oahe to rest. I do not believe in tromping over my neighbor for my personal gain. However, the promoters of Oahe, state political leaders, construction interests, bankers, equipment salesmen, and bureaucrats, have allowed greed and self-interest to interfere with respect for others' rights and property. It is time to listen to the affected people who must live with the atrocities of a project like Oahe, rather than try to silence them and build a project against their wishes. Listening is what our political leaders and other promoters of Oahe have not been doing. That is why we are at this point today. Please support deauthorization of the Oahe Project by supporting the Bedell Bill. What could be a more refreshing way to help our country out of its financial woes under a fiscally responsible administration than to eliminate the authorization of a project that does not make environmental or economic sense.

Sincerely,

Edwin Fischbach
 Edwin Fischbach

Mrs. Edwin Haselhorst
R. R. 1 Box 18
Mansfield, S. D. 57460

Senator Frank Murkowski, Chairman
Sub-committee on Energy & Water
U. S. Senate Building
Washington, D. C. 20510

Dear Senator Murkowski:

My family farms in the project area of the proposed Oahe irrigation project. This project has been rejected by the local elected Oahe Conservancy Sub-district Board.

We have always thought that the Oahe Project should be deauthorized because of it's effects on the soil, the James River, the family farmer, and its economic feasibility since we have to contract to repay a portion of the cost.

I am asking you to help us and the Oahe Conservancy Sub-district Board by supporting deauthorization of the Oahe project. The treat of this project must be removed so we can move to more meaningful water resource development for our state.

Sincerely,

Mrs. Edwin Haselhorst
Mrs. Edwin Haselhorst

Edwin Haselhorst
R. R. 1 Box 18
Mansfield, S. D. 57460

Senator Frank Murkowski, Chairman
Sub-committee on Engery & Water
U. S. Senate Building
Washington, D. C. 20510

Subject: Oahe Deauthorization Hearings

Dear Senator Murkowski:

I farm in the project area of the proposed Oahe irrigation project. This project has been rejected by the local elected Oahe Conservancy Sub-district Board and should be deauthorized.

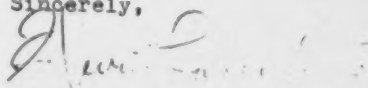
I have always thought that the Oahe project should be deauthorized because of it's effects on the soil, the James River, the family farmer, and its economic feasibility since I have to contract to repay a portion of the cost.

The Oahe Project remains a threat-----

- To land loss to open ditches and reservoirs,
- Land loss to wildlife metigation,
- A tremendous cost besides tax obligation,
- Water pollution,
- Flooding along the James River,
- The negative impact to natural existing wildlife habitat.

I am asking you to help me and the Oahe Conservancy Sub-district Board by supporting deauthorization of the Oahe Project. Threat of this project must be removed so we can move to more meaningful water resource development for our state.

Sincerely,



Edwin Haselhorst



MIRANDA, SOUTH DAKOTA

September 11, 1981

Dear Sirs:

We urge your support of S.B. 1553 on the Oahe Project
We need the water as proven the last several years.

Thank you.

Farmers Elev Co.
Clyde Ford Mgr.
Sincerely,

September 10, 1981

Dear Senators,

I am a diversified farmer in Crandon township of Spink County, South Dakota. I own and rent 1260 acre unit in which I raise corn, wheat, oats, and alfalfa. Three hundred acres of this land is pasture on which I pasture 80 head of cows and calves.

I write this letter in favor of Senate Bill S-1553 in hopes that it will keep alive the dream of irrigation with the world's purest water, Missouri River water. I am the fourth generation to farm at the place where my father and grandfather were born. I feel that irrigation is very feasible on my ground as the soil is highly suitable for irrigation.

I feel that the United States government owes the State of South Dakota water development for trade for the land lost on the Missouri River dams. I have land signed up in the Cendak Project and was a life long supporter of the Oahe Project. I feel that the irrigation project would be a better investment for the government than a disaster payment.

I urge your rapid passage of this bill so that the stalemated water development projects in South Dakota can be overcome.

Concerned citizens,

Mr. and Mrs. Keith Schroeder

*Keith Schroeder**Linda Schroeder*

We own and operate a family farm in Spink County. We strongly believe that CENDAK is very important and would benefit the people and the state of South Dakota. The drought the last two years has really hurt the farmers and cities in this area as well as other places in South Dakota. If we could have the CENDAK delivery system at the low interest rate and the low pumping rate we could get more productive crops to better serve ourselves thru livestock feeding. The passage of Bill # S 1553 would be beneficial to all of South Dakota. We urge strong consideration of this bill since passage would better serve the people of our fair state.

Sincerely,

Mr. & Mrs. Wilbur Masat

Mr. and Mrs. Wilbur Masat
R R 2 Box 140
Redfield, S. D. 57469

We own and operate a farm southeast of Redfield in Spink County. Our operation consists of 4000 acres and we have a feedlot of 1500 - 2500 head of livestock. I run 200 - 450 cows, the variation due to feed supply diminishing from the extreme difference in weather and moisture conditions.

I am secretary - treasure of the South West Spink Water Development and serve on the Steering Committee for CENDAK. I believe water development for South Dakota is a necessity, especially CENDAK, because it is basically for agriculture and I believe if South Dakota is to survive financially we need our ag products and development of irrigation. This is why I fully support S-1553 to its fullest degree.

I feel the federal government, due to the Flood Control Act of 1944, owes the state of South Dakota a commitment and a chance to help them help themselves.

I believe the people in the area of CENDAK have expressed their strong need and want for irrigation by the excess of \$100,000.00 from donations and forward financing a Preliminary Feasibility Study. The people of CENDAK know what they want and need.

Thank you.

Doyle Harms
Mrs. Doyle Harms
 Doyle Harms
 Mrs. Doyle Harms
 RR 2 Box 56
 Redfield, SD 57469

Senator Murkowski, Chairman
Sub-committee On Water Power
3104 Dirksen Building
Washington, D.C. 20510

Dear Mr. Chairman:

Lack of water is the most limiting factor in creating new wealth in Central South Dakota. In three of the past six years Hyde County has felt the effects of devastating drought, the greatest of these was in 1976, which brought economic and social hardships in this area comparable to that of the 1930's. Nearly 75% of Hyde County's cattle population was either sold, or shipped to other states to pasture. Feed was purchased and hauled into South Dakota from as far away as Texas and Canada. Crop, pasture, and feed losses in this area were nearly 100% and nearly all farm/ranch operators, as well as local businessmen, were forced to take out disaster loans, through no fault of their own. The 1980 census showed that Hyde County had lost over 20% of it's population in the past 10 years. Our young people have had to seek employment elsewhere due to the adverse economic conditions of our area due largely to the severe droughts during this period of time.

We appreciate all that the federal government has done to assist our people during these times, such as financial assistance for feed, transportation of livestock, disaster loans etc., but these are only temporary support, and not a solution to the problem. I realize problems will arise along with water development, but I believe the benefits of a stabilized economy, abundant feed supply and new jobs so that our young people might remain in South Dakota far outweigh any adverse effects.

Senator Murkowski, Chairman
Page 2

Besides greatly benefiting existing operations in our area, water development will also encourage new industry to locate here, as one of the top priorities of industry searching for new locations is an abundance of high quality water, such as that found in the Missouri River, and presently being proposed to be channeled to this area.

I believe it would be far better for the federal government to encourage and promote water development in South Dakota, and thereby provide a means by which our people might be able to help themselves during great drought periods, rather than having to go back to the federal government for assistance each time. I also believe the federal government has a responsibility to uphold it's commitment to South Dakota and it's people which was made several years ago in return for land taken and inundated for the Missouri River dams. Our family gave up 1000 acres of prime farm land in the Blunt Reservoir area (sold to the federal government) because we were told it was needed and to be used for water storage which would be of great benefit to South Dakota and it's people. We did not sell because we wished to, but rather the decision to sell was made in good faith, expecting it to be used for this purpose, and we felt it was in the best interest of all. To date nothing has been done towards this purpose. I would hope that now water development might move ahead in a progressive and aggressive manner.

I realize that your committee has a most important decision to make following the deauthorization hearings. I hope you will realize South Dakota does not have the great wealth of those surrounding states containing large deposits of oil and coal. Perhaps in the not too distant future, water (a renewable natural resource) used in the production of food for the people of this nation and the

Senator Murkowski, Chairman
Page 3

world will have even greater value than these.

I am personally affected by water development, or lack of water development, in many ways. I also believe I speak with a certain amount of responsibility for those I serve and represent in this matter as I am presently serving in the following capacities:

Hyde County Commissioner

Chairman, Hyde County Disaster Board

President, Highmore Industrial Development Corp.

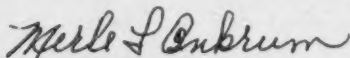
Former Land Owner, Blunt Reservoir Area

Present Land Owner - Farm/Ranch operator in proposed
Cendak Water Development Area

Because Hyde County has been one of the hardest hit areas by droughts in recent years it received the attention of the national news media in many forms, but I believe the special report published by the Des Moines Register in February, 1977, best describes the conditions of our area. It is entitled "The Thirsty Land", (copy enclosed), for South Dakota has always had a need for far more water than it receives.

I wish to sincerely thank this committee for allowing me to offer this written testimony in support of water development for South Dakota.

Sincerely yours,



Merle L. Ankrum
R.R. 1 - Box 94
Highmore, SD 57345

Enc.

Maurice Garman
Rt. 1 Box 360
Redfield S. Dak.

Senate,
Piere,
South Dak.

I am writing this letter in regard,s to Senate Bill No. 1553.

We need this low cost electric for pumping water and also Cendak. water.

This year I had to stack russian thistles for hay for my cattle and am still short.

At the high interest rate you can't afford to borrow money to buy hay and when S. Dak. loses there agriculture they lose everything

I have two Daughter's that had to leave the State because no job's and many other people experience this same thing .

We need water to make S. Dak. prosper and make job's to keep our young people here, to work and pay taxes and water is the only way this can be done.

Let's hurry before it's to late.

When farmer' s make money everybody doe's , Let s get together and quite fighting and another and get this job done.

Your's Truly,

Maurice Garman
Maurice Garman

Testimony To
The U.S. Senate Subcommittee
On Water and Power
September 12, 1981
Siegfried Swanhorst
Cresbard, South Dakota

Mr. Chairman, members of the Senate Subcommittee on Water and Power. My name is Siegfried Swanhorst. I live and farm in Faulk County, South Dakota and my address is Cresbard, South Dakota. I served on the Oahe Conservancy Sub-district Board from January, 1977 to December, 1980.

I submit testimony today in support of deauthorization of the Oahe Unit Irrigation Project. I also have some comments about the Belle Fourche Irrigation Project, which I understand the Subcommittee is taking testimony on in these hearings. I am not opposed to the legislation proposed for the Belle Fourche Project, however I think history has shown that the project has had questionable feasibility and I think it is a good example why the Oahe Unit Irrigation project should not be built.

Oahe Unit

As authorized in 1968, the Oahe Unit project would take about 11,000 acres of farm land out of production in Faulk County;

Cresbard Reservoir	9,000 acres / ₁
Faulkton Canal-24 miles	625 acres / ₂
Cresbard Canal-12 miles	340 acres / ₂
Wildlife Mitigation	<u>1,378 acres</u> / ₃
Total Acres	11,343

- /1 Environmental Impact Statement, Oahe Unit, 1973
/2 Fact Sheets, Oahe Unit, Bureau of Reclamation, 1976
/3 Revised Wildlife Plan, Oahe Unit, March, 1977

In return, Faulk County recieved no direct benefits from the project. The possibility of water for M&I purposes was held out, however later studies indicate that the water would be to expense for small towns, like those found in Faulk County, to use. Five month storage had to be established, for example, during the winter months when the irrigation canals were shut down. Treatment systems, currently geared toward groundwater, would have to be changed to deal with treatment of surface water.

The possibility of canalside irrigation was held out as a possible benefit, however there was only water available for 18,000 acres all along the 98 mile canal route from the Pierre Pumping Plant to Cresbard Reservoir. A total of about 60,000 acres of land would be competing for the 18,000 acres of canalside irrigation water, which would only be available when the project lands in Brown and Spink County did not need it. Water would be available on a year by year basis, and the farmer would have to establish storage along the canal and a turnout build to government specifications.

When I first was elected to the Oahe Sub-district Board in 1976 I approached the project with an open mind. I figured if the project was feasible and the farmers it was being built for wanted it, then the project should probably be completed. Public hearings held by the Oahe Sub-district Board from February 3, 1977 to April 30, 1977 convinced me that (1) the project as currently authorized is not practical or feasible, and (2) that the farmers in the Lake Plain area in Brown and Spink County who were supposed to get the irrigation from the project, did not want it. Therefore I supported deauthorization of the Oahe Project. Before a project like Oahe is constructed, it should be shown that the land loss and cost involved can be justified, and that there is strong local support. Oahe fails on both points.

Belle Fourche Project

This brings me to the Belle Fourche Project. I don't claim to be an expert on the project, and as I said earlier, I'm not opposed to those farmers getting some help in improving that project if that is what they really need. But I think the "story" of Belle Fourche points out some good reasons why the Oahe Project should not be built.

The Belle Fourch Irrigation Project was first authorized by Congress in 1902 as part of the Reclamation Act. Plans were completed in 1904 and the project was officially approved for construction in May of 1904, at an estimated cost of around \$2.1 million dollars, proposing to irrigate 90,000 acres.

Construction started on the project in May of 1905 and was completed in about 1908 at a total cost of \$4,230,000, or double what was originally estimated and appropriated. The project was proposed to irrigate 60,000 acres. Some of the soils proved not to be irrigable and were dropped from the project.

Primary construction repairs of \$3,500,000 were made in 1952, and drainage rehabilitation work was done in 1928 at a cost of \$1,100,000. The total construction obligation was \$5,288,000. The unpaid balance, as of 1974, over 60 years after the project was constructed, was \$2,033,000. At an annual repayment of \$38,000 it was estimated in 1976 that the project would be repaid by the year 2027..... over 100 years after it was built.

Early aspektations were that the project would pay for it'self in a short time. In 1927 the Secretary of Interior lable the project a "white elephant" and tried to put it up for public auction. The landowners in the area signed a contract with the government for repayment of the project in 1948, with the Government accepting responsibility for operating and maintaining the project.

As I understand it, presently Congress is considering legislation which calls for from \$30 to \$40 million in federal funding to assist with repairs and improvement of the project. The bill also calls for the reauthorization of the Belle Fourche Project under the Pick-Sloan Act, which would grant the project the benefit of up to 80% hydro-subsidy for construction costs and make available low cost power for pumping, greatly improving the feasibility of the project.

As I said, I'm not passing judgement on the Belle Fourche farmers. Maybe they do need this kind of assistance to keep their project going. But the question that as a taxpayer you can't help asking is, .."If the project was a success, why wasn't a fund set aside over the years to maintain and improve the project?" I have traveled through the project area while on vacations in the Black Hills, and from what I could see it didn't look like a real productive project. Farms are small and generally in need of repair. Farm machinery is old and outdated. In short, it didn't look like a prosperous area. This is a Bureau of Reclamation irrigation project which has been in operation for years in South Dakota. When considering construction of the Oahe Project, the best reason I can think of to support deauthorization of Oahe is the Belle Fourche Project. Lets not make the same mistake twice.

According to testimony submitted in 1977 by the Chairman of the Belle Fourche Irrigation Project, Mr. Donaldson, considerable land had been lost to "seepage" in the project.

"The project at one time contained 81,870 acres and is now at 57,096 acres, a loss of 24,774 acres which are now in Class VI, thus if these lands were reclaimed, would increase the returns to farmers and in general the whole economy."

Mr. Donaldson further stated that the delivery efficiency of the

Belle Fourche Irrigation Project was 48% in 1977. In other words there was a loss of over 50% of the water through seepage and evaporation. (see attachment 1)

These facts were confirmed by Senator Abdnor in his comments to Congress in 1979 (see attachment 2). Proposed legislation offered in 1977 and 1979 point out that the project cost has increased considerably and the changed proposed would involve the Pick-Sloam Missouri River Basin Program covering a major part of the repayment costs. (attachments 3 and 4)

In closing, I would recommend that the Congress deauthorize the Oahe Project, or at the very least those features of the project which be built specifically to deliver water to the Lake Plain area in Brown and Spink Counties. That would include the Faulkton Canal, the Cresbard Reservoir, and the Cresbard Canal. Any other water projects funded and developed should be found feasible based on their merit and on current practical interest rates.

I do feel that Congress should provide assistance to construct those water projects which serve a broad community needs, such as for domestic water, but I feel irrigation development, which is basically a capital improvement, should be paid for by those who irrigate, and not the taxpayer or the power user.

If the federal government wants to assist South Dakota with irrigation development, you should consider providing funding at long term low interest to landowners and farmers along the Missouri River who could develop thousands of acres of "riverside irrigation" without requiring the construction of canals and new reservoirs, and without taking thousands of acres of good farm land out of production. I'm opposed to SB 1553 because, as written, I do not feel it will meet these objectives.

Hon. James Abdnor
Extension of remarks
Dec. __, 1977

At the request of my office President Robert Donaldson of the irrigation district board has furnished the following comments in support of this legislation:

First, the Belle Fourche Project, over the years since construction, has lost considerable acreage to seep, which could be reclaimed by lining, pipe or other acceptable means under a reauthorization program. The Project at one time contained 81,870 acres and is now at 57,096 acres, a loss of 24,774 acres which are now in Class VI, thus if these were reclaimed, would increase the returns to farmers and in general the whole economy.

The project was one of the first two projects authorized for construction in 1903, and as such the many methods used in construction are so very different from construction practices of today; thus by using modern methods and practices, problems that have existed since the project works were constructed and completed could be corrected and eliminated. A great saving of operation and maintenance expense would ensue.

Many of the original main structures are in very poor condition and/or need modification to operate satisfactorily. The redesign and the replacement of such structures could be accomplished under the reauthorization program. It would be impossible for the District to replace these structures with District funds. Another thing that should be considered, is the enlargement of the Inlet Canal to take more water which would be a safety factor to peoples below the Diversion Dam.

One very important reason and probably the most important is the saving of our precious resource water, with the lining, re-alignment of canals and laterals, construction of new structures and new farm turn-outs with accurate measuring devices - water saving would be greatly increased. Farmers are now investing large sums of money in gated pipe which is contributing to water saving and efficiency which we feel shows the project farmers willingness to invest in water saving economies. The increased awareness of water conservation also contributes to a greater saving of our top soil. This would greatly increase the water delivery efficiency on the Project from the present 48%.

- The time has come. The Belle Fourche Project has many years of reliable service behind it, but enactment of this legislation will ensure many more years of improved service to come.

I urge enactment of HR 10290.

Attachment 1

18, 1979

CONGRESSIONAL RECORD—Extensions of Remarks

E3015

BELLE FOURCHE IRRIGATION
PROJECT

HON. JAMES ABDNOR

OF SOUTH DAKOTA

IN THE HOUSE OF REPRESENTATIVES

Monday, June 18, 1979

• Mr. ABDNOR. Mr. Speaker, necessity once again has required me to introduce legislation authorizing the rehabilitation and modernization of the Belle Fourche irrigation project in western South Dakota. This project was first authorized in 1903 and at the time of its completion provided water for some 81,870 acres of farmland. Presently, however, the system is serving only 57,096 acres, primarily due to the fact that the present system has served its useful life and is rapidly deteriorating.

This extensive deterioration and almost complete absence of safety features along the project have been direct causes of four deaths in the past 8 years.

Agriculture is of vital importance to the social and economic well being of Belle Fourche and the surrounding area. The strain put on the land and economy of the Belle Fourche area as a result of the gradual failure of the irrigation system is being felt more and more each year.

Modernization and improvement of the system is needed for several reasons, some of which have just been noted. Others include the restoration of design capacity to avoid overloading and conservation of irrigation water through

the reduction of seepage and waste. With these improvements, a reduction in annual maintenance and operational costs would result.

Financing of this project could be accomplished by integrating the Belle Fourche project into the Pick-Sloan Missouri basin program. My bill authorizes expenditures of \$31 million to rehabilitate and modernize the project, with repayment by the users according to their capability. The amount exceeding water users' capability to repay would be repaid by future power revenues of the P-S MBP.

I urge enactment of this timely and needed measure. •

95TH CONGRESS
1st Session**H. R. 10290****IN THE HOUSE OF REPRESENTATIVES**

DECEMBER 15, 1977

Mr. ADDONOR introduced the following bill; which was referred to the Committee on Interior and Insular Affairs

A BILL

To authorize modernization and improvement of the Belle Fourche project and to integrate the project into the Pick-Sloan Missouri Basin program.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That the general plan for the Belle Fourche project, South
4 Dakota, heretofore authorized for construction by the Secre-
5 tary of the Interior May 10, 1904, pursuant to the Reclama-
6 tion Act of 1902 (32 Stat. 388), is modified to include
7 construction, betterment of works, land rehabilitation, water
8 conservation, recreation, fish and wildlife conservation and
9 development, and silt control on the entire Belle Fourche
10 project. As so modified, the general plan is reauthorized

1 under the designation "Belle Fourche Unit" of the Pick-
2 Sloan Missouri Basin program.

3 SEC. 2. (a) The Secretary of the Interior is authorized
4 to negotiate and execute an amendatory repayment contract
5 with the Belle Fourche Irrigation District covering all lands
6 of the existing Belle Fourche project.

7 (b) The period of repayment of the construction and
8 rehabilitation and betterment costs allocated to irrigation and
9 assigned to be repaid by the irrigation water users shall be
10 not more than forty years from and including the year in
11 which such amendatory repayment contract is executed.

12 (c) During the period required to complete the reha-
13 bilitation and betterment program and other water conserva-
14 tion works, the rates of charge to land classes and the acreage
15 assessable in each land class in the unit shall continue to be
16 as established in the November 29, 1949, repayment con-
17 tract with the district, as subsequently amended and supple-
18 mented; thereafter, such rates of charge and assessable
19 acreage shall be in accordance with the amortization capacity
20 and classification of unit lands as determined by the
21 Secretary.

22 SEC. 3. (a) All miscellaneous net revenues of the Belle
23 Fourche unit shall accrue to the United States and shall be
24 applied against irrigation costs not assigned to be paid
25 by irrigation water users.

1 (b) Constructon and rehabilitation and betterment costs
2 of the Belle Fourche Unit allocated to irrigation and not
3 assigned to be repaid by the irrigation water users nor re-
4 turned from miscellaneous net revenues of the unit shall be
5 returnable from net revenues of the Pick-Sloan Missouri
6 Basin program within fifty years from and including the
7 year in which the amendatory contract authorized by this
8 Act is executed.

9 SEC. 4. The limitation of lands held in beneficial owner-
10 ship within the unit by any one owner, which are eligible
11 to receive water from, through, or by means of project
12 works, shall be three hundred and twenty acres of class 1
13 land, three hundred and sixty acres of class 2 land, four
14 hundred and twenty acres of class 3 land, or five hundred
15 acres of class 4 land, except that the acreage of each class
16 of land which is eligible to receive water may be adjusted
17 by the Secretary if he determines such adjustments are war-
18 ranted by changing economic conditions.

19 SEC. 5. (a) The provision of lands, facilities, and project
20 modifications which furnish recreation and fish and wildlife
21 benefits in connection with the Belle Fourche unit shall be
22 in accordance with the Federal Water Project Recreation
23 Act (79 Stat. 213), as amended.

24 (b) The interest rate used for purposes of computing
25 interest during construction and interest on the unpaid

1 balance of the capital cost allocated to interest-bearing fea-
2 tures shall be determined by the Secretary of the Treasury
3 as of the beginning of the fiscal year in which construction
4 of said interest-bearing features is initiated, on the basis of
5 the computed average interest rate payable by the Treasury
6 upon its outstanding marketable public obligations, which
7 are neither due nor callable for redemption for fifteen years
8 from date of issue.

9 SEC. 6. Appropriations heretofore or hereafter made for
10 carrying on the functions of the Bureau of Reclamation shall
11 be available for credits, expenses, charges, and costs provided
12 by or incurred under this Act. The Secretary is authorized
13 to make such rules and regulations as are necessary to carry
14 out the provisions of this Act.

15 SEC. 7. There is hereby authorized to be appropriated
16 for the rehabilitation and betterment of the irrigation fa-
17 cilities of the Belle Fourche unit and for recreation and fish-
18 and wildlife measures as authorized by this Act, the sum of
19 \$26,000,000 (based on January 1977 prices), plus or
20 minus such amounts, if any, as may be justified by reason
21 of ordinary fluctuations in construction cost indexes applica-
22 ble to the types of construction involved herein.

HONORABLE JAMES ABDNOR

Extension of Remarks

December 15, 1977

Introduction HR 10270, to Reauthorize the
Belle Fourche Irrigation Project

Mr. Speaker, I have today introduced legislation to authorize the modernization and improvement of the Belle Fourche Project, which was originally authorized in 1903 and continues to supply water for irrigation to about 375 landowners.

This project not only provides the lifeblood of the operations of these family farms, but it is also vital to the economy of the area. Considering the state of the science of irrigation when the project was initiated, it has served its purpose surprisingly well.

The time has come, however, to update the project's facilities and operation based on current knowledge and technology. HR 10270 has been drafted in consultation with the Belle Fourche Irrigation District Board and the Bureau of Reclamation and will provide the necessary authorization:

(Insert text of bill)

96TH CONGRESS
1ST SESSION

H. R. 4502

To authorize modernization and improvement of the Belle Fourche project and to integrate the project into the Pick-Sloan Missouri Basin program.

IN THE HOUSE OF REPRESENTATIVES

JUNE 18, 1979

Mr. ABDNOB introduced the following bill; which was referred to the Committee on Interior and Insular Affairs

A BILL

To authorize modernization and improvement of the Belle Fourche project and to integrate the project into the Pick-Sloan Missouri Basin program.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That the general plan for the Belle Fourche project, South
4 Dakota, heretofore authorized for construction by the Secre-
5 tary of the Interior, May 10, 1904, pursuant to the Reclama-
6 tion Act of 1902 (32 Stat. 385), is modified to include con-
7 struction, betterment of works, land rehabilitation, water
8 conservation, recreation, fish and wildlife conservation and

1 development, and silt control on the entire Belle Fourche
2 project. As so modified, the general plan is reauthorized
3 under the designation "Belle Fourche Unit" of the Pick-
4 Sloan Missouri Basin program.

5 SEC. 2. (a) The Secretary of the Interior is authorized
6 to negotiate and execute an amendatory repayment contract
7 with the Belle Fourche Irrigation District covering all lands
8 of the existing Belle Fourche project.

9 (b) The period of repayment of the construction and re-
10 habilitation and betterment costs allocated to irrigation and
11 assigned to be repaid by the irrigation water users shall be
12 not more than forty years from and including the year in
13 which such amendatory repayment contract is executed.

14 (c) During the period required to complete the rehabili-
15 tation and betterment program and other water conservation
16 works, the rates of charge to land classes and the acreage
17 assessable in each land class in the unit shall continue to be
18 as established in the November 29, 1949, repayment con-
19 tract with the district, as subsequently amended and supple-
20 mented; thereafter, such rates of charge and assessable acre-
21 age shall be in accordance with the amortization capacity and
22 classification of unit lands as determined by the Secretary.

23 SEC. 3. (c) All miscellaneous net revenues of the Belle
24 Fourche unit shall accrue to the United States and shall be

1 applied against irrigation costs not assigned to be repaid by
2 irrigation water users.

3 (b) Construction and rehabilitation and betterment costs
4 of the Belle Fourche Unit allocated to irrigation and not as-
5 signed to be repaid by the irrigation water users nor returned
6 from miscellaneous net revenues of the unit shall be return-
7 able from net revenues of the Pick-Sloan Missouri Basin pro-
8 gram within fifty years from and including the year in which
9 the amendatory contract authorized by this Act is executed.

10 SEC. 4. (a) The provision of lands, facilities, and project
11 modifications which furnish recreation and fish and wildlife
12 benefits in connection with the Belle Fourche unit shall be in
13 accordance with the Federal Water Project Recreation Act
14 (79 Stat. 213), as amended.

15 (b) The interest rate used for purposes of computing in-
16 terest during construction and interest on the unpaid balance
17 of the capital cost allocated to interest-bearing features shall
18 be determined by the Secretary of the Treasury as of the
19 beginning of the fiscal year in which construction of said in-
20 terest-bearing features is initiated, on the basis of the com-
21 puted average interest payable by the Treasury upon its out-
22 standing marketable public obligations, which are neither due
23 nor callable for redemption for fifteen years from date of
24 issue.

1 SEC. 5. Appropriations heretofore or hereafter made for
2 carrying on the functions of the Bureau of Reclamation shall
3 be available for credits, expenses, charges, and costs pro-
4 vided by or incurred under this Act. The Secretary is author-
5 ized to make such rules and regulations as are necessary to
6 carry out the provisions of this Act.

7 SEC. 6. There is hereby authorized to be appropriated
8 for the rehabilitation and betterment of the irrigation facilities
9 of the Belle Fourche unit for recreation and fish and wildlife
10 measures as authorized by this Act, the sum of \$31,000,000
11 (based on January 1979 prices), plus or minus such amounts,
12 if any, as may be justified by reason of ordinary fluctuations
13 in construction cost indexes applicable to the types of con-
14 struction involved herein.

Early days of

THE BELLE FOURCHE IRRIGATION PROJECT

LOCATED IN WESTERN South Dakota, the Belle Fourche Irrigation Project remains a monument to our nation's earliest attempts at turning low-moisture areas into fertile cropland.

Teddy Roosevelt's ranching experience and travel in Dakota Territory led him to the conclusion

that conservation of water to irrigate the so-called "Great American Desert" could be accomplished. Largely through Roosevelt's efforts as president, the Reclamation Act of 1902 was passed.

The Belle Fourche Irrigation Project was one of the first projects authorized under the Reclamation

Act, which called for type construction of test projects to show the value of irrigation on western lands. The projects were to be constructed by the government and at government expense.

During the summer of 1903, the U.S. Reclamation Service (now the Bureau of Reclamation) made a

reconnaissance of streams having their sources in or near the Black Hills of western South Dakota.

Plans and estimates for the project—to be located near Belle Fourche, S.D.—were completed during the winter of 1903 and 1904. These plans were then reviewed by a government board of engineers who reported that it was feasible to irrigate an area of not less than 60,000 acres to the east of Belle Fourche. The board also recommended that construction begin as soon as possible.

The project was officially approved by the Secretary of Interior on May 10, 1904 and \$2.1 million was set aside for project construction.

Modern day spending like this seems a drop in the bucket, but this was not the case 72 years ago. The \$2.1 million seemed like a fabulous amount of money to observers in

1904 and there was considerable opposition to the project from the beginning.

Orman Dam

First construction on the Belle Fourche Irrigation Project was started in May of 1905. On this date workers began building a diversion dam on the Belle Fourche River which would channel water to the reservoir.

Not until March 26, 1906, did work begin on the main dam, Orman, which was named after its initial contractor.

Contracts for the reservoir dam and the two main irrigation canals were let in November of 1905 and awarded to Orman and Crook, railroad contractors from Pueblo, Colo. Their bid was \$1,003,299.25.

Engineering an earthen dam of this size in the early 1900's was a mammoth task. The dam was designed to be 6,500 feet long at the crest, 115 feet high and required approximately 1.6 million cubic yards of dirt to construct.

The dirt was spread in six-inch layers until the proper compaction was obtained. Three artesian wells and a nearby reservoir supplied water to help compact the dirt.

A narrow gauge railroad system was used to haul the dirt. Steam shovels loaded dirt cars from borrow pits which were located on the north and south ends of the dam and in the impounded area above the dam.

The dirt cars had a capacity of approximately two cubic yards and were pulled by a small steam locomotive called a "dinky." Some days the steam shovel filled over 500 cars.

In addition to rail cars, teams and wagons were used to haul dirt for the dam. These wagons were loaded by 16-horse elevating graders.

After being dumped, the dirt was spread on the embankment by four-horse fresnos (comparable to modern 'scrapers) and two-horse slips. The construction engineer had to con-

stantly remind the contractor about getting the layers of dirt too deep which resulted in poor compaction.

As the dam embankment progressed and a new area built up, the railroad system was relaid.

The upstream slope of the dam was faced with cement blocks. These blocks measured 5x6 1/2 feet to a side and were eight inches thick. They were constructed about five

miles from the dam at the Snoma gravel pit.

Workers started making the blocks on May 6, 1907 and, after some initial experience, were able to produce about 100 blocks a day. The blocks were kept wet for 30 days to cure properly and were covered with earth to keep them from drying out. Acres and acres of blocks were poured before any were placed on the dam.

Since the Snoma gravel pit was located five miles from the dam, the contractor determined that the best way to haul the blocks would be by railroad. Consequently, a grade was built and a narrow gauge track was laid from the block plant to the dam.

Again dinky engines were used, pulling 11 cars that hauled 44, 3,000-pound blocks per trip. The total weight of a trainload of blocks was over 66 tons.

Problems

Floods, inadequate equipment and financial problems constantly plagued the initial contractors of Orman Dam. On Jan. 18, 1908, with the dam 25 percent completed, Orman and Crook went into voluntary bankruptcy. It was a hectic spring for the Reclamation Service. Because of the bankruptcy proceedings, no equipment could be moved and some was put under lock and key.

Fortunately, the situation was quickly remedied. National Surety, the project's bonding company, stepped in and negotiated a new contract with Hayes Brothers Company and John W. Peters,

Jamesville, Wis. By April 21, 1906, construction on Orman Dam has resumed.

According to records kept by W.W. Patch, construction engineer, there were many day-to-day problems in building the dam, not the least of which was finding sufficient hay and oats for several hundred horses used in the construction.

There were tragedies also. On Aug. 23, 1907, the project foreman and engineer lost all their belongings in a fire that destroyed two bunkhouses. On Feb. 14, 1908, a worker—in jest—threw a dynamite cap into a fire exploding five pounds of dynamite and killing one man and injuring three others. In September of that same year, a young Austrian laborer working on the dam was killed by a runaway dirt car.

Patch's records also indicate there were constant financial problems. A month after Orman and Crook went out of business, paychecks failed to arrive, creating a tense situation for everyone involved with the project. In 1908, men worked eight to ten-hour days at \$1.75 a day.

While striking for higher pay, 18 Bulgarian workers quit on July 8, 1908 and on September 21 of that same year, more of the crew working on the dam quit when local banks would not honor their paychecks.

Project Completed

Despite recurring financial and labor problems, progress on the dam continued.

In the summer of 1909, workers filled the Owl Creek Gap, signaling the near completion of the project. Owl Creek was the basin on which Orman Dam was being constructed

and a V-shaped gap had been left in the middle of the dam, allowing creek water to pass downstream.

When completed in 1910, Orman Dam ranked as one of the largest earthen dams in the United States, measuring exactly 6,262 feet long, 112 feet high and creating an 8,451 acre lake with a maximum capacity of 185,170 acre feet of water.

To distribute water stored behind the dam, two main canals were excavated. The south canal stretches for 44 miles, has a capacity of 325 cubic feet per second and was under construction from 1906 to 1910. The 43-mile north canal has a capacity of 550 cubic feet per second and was under construction from 1906 to 1916.

Dozens of smaller canals called "laterals" carry water from the main canals to the fields. Over 200 miles of canals and laterals extend downstream from Orman Dam, supplying water to irrigable farmland within the project's boundaries.

In the end, the Belle Fourche Irrigation Project cost the U.S. government a total of \$4,230,000 to construct—two times the amount originally appropriated.

Orman Dam and the water it supplied proved to be a boon to Belle Fourche and the surrounding area.

Government land within the project was opened for public settlement as the project neared completion. Local businesses thrived as people poured into the area, looking for land to farm.

Land in the irrigation project sold for \$25 and up—an amazing price to pay back in 1910. And yet, this irrigated acreage produced abundant crops of hay, grain and corn, far beyond the wildest dreams of these early settlers.

Irrigation also introduced a myriad of new cash crops to western South Dakota, including cucumbers, sugarbeets, onions, pinto beans and even peanuts. Taking place was established to process the cucumbers and, in 1927, the Utah and Idaho Sugar Company built a plant at Belle Fourche to process the beets.

White Elephant

A crucial period in the history of the Belle Fourche Irrigation project occurred in 1927 when the Secretary of Interior ordered that Orman Dam and the canal works be sold at auction to rid the government of what he called a "White Elephant" that should never have been built in the first place.

The suggestion that the Belle Fourche Project be auctioned off came as a result of the severe agricultural depression being felt by the U.S. in 1927. It was no longer profitable, according to the government, to operate and maintain the irrigation project.

Reaction to the suggestion of an auction was immediate.

In 1948, the farmers of the valley signed a contract with the U.S. government stating that they would operate and maintain the project. Since that time, a board of directors, consisting of seven members elected by the landowners, has had the responsibility for directing the irrigation project. A manager, hired by the board, directs the day-to-day

Belle Fourche

continued from preceding page

activities of the district.

Landowners within the district pay a fixed rate each year (\$3.50 in 1975) for operation and maintenance of the irrigation district.

Landowners also share in repaying the construction cost of the project. Each year \$38,000 is repaid to the U.S. government, and by 2027, district landowners will have full ownership of Orman Dam and the canal works.

Water users pay more for their water today than they did in the early years of the project. In 1920, for example, a flat rate of \$1.90 per acre was charged. Today, farmers within the irrigation district pay a water user rate of \$3.80 per acre, plus a construction charge which amounts to \$6.70 an acre for Class 1 (sandy) soil.

Belle Fourche Irrigation Today

The types of crops irrigated in the Belle Fourche area have changed—alfalfa and corn are now the primary crops replacing sugarbeets and cucumbers—but the benefits derived from life-giving water remain the same.

The average size farm within the irrigation district has doubled since 1910—today's farms average 134 acres.

Despite the costs, irrigation is still a paying proposition for Belle Fourche area farmers. In 1974, production valued at \$8,432,000 was harvested on approximately 54,000 acres. Without the water supplied through irrigation, this type of production would not have been possible.

Even more importantly, Belle Fourche area farmers are operating and managing this irrigation project in a cooperative effort—to insure continued irrigation for coming years.

More than 66 years after completion of the project, Teddy Roosevelt's dream of irrigating the arid western lands is still coming true.

September 11, 1981

Chairman Frank Murkowski
Senate Sub-Committee on Water & Power

The National Bank of South Dakota supports S-1553 calling for a feasibility study of the so-called CENDAK irrigation proposal and further supports expansion of the CENDAK proposal to include the Jerauld County area.

Adequate water supplies are vital to the continued development of South Dakota's economy. Agriculture, as South Dakota's major industry, requires tremendous supplies of moisture to grow the feed and grain crops so important to our state's economy. Continued water development provides a stable economic base from which all other sections of South Dakota's economy derives benefit.

The droughts of 1975-76 and 1980-81 are recent examples of the tremendous adverse economic impact the lack of adequate water supplies have on the rural communities of South Dakota. Future water development would aid in diminishing that impact.

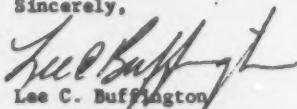
As one of the region's largest agricultural lenders, the National Bank of South Dakota has witnessed the dramatic difficulties that South Dakota agriculture producers face in trying to make an adequate living from our land with its highly volatile moisture conditions. Two of our Central South Dakota branches are directly impacted by the CENDAK irrigation proposal.

In the best interest of South Dakota's economic development the National Bank of South Dakota actively supports the continued development of our state's water resources.

I'm writing this on behalf of the National Bank of South Dakota, a banking organization with assets of over 600 million dollars operating in all parts of South Dakota.

Thank you.

Sincerely,



Lee C. Buffington
Vice Pres. & Mgr.
National Bank of South Dakota
Wess. Springs, SD 57382

Hitchcock, South Dakota
September 11, 1981

Sub Committee on Water & Power of the Senate Committee
on Energy & Natural Resources

Gentlemen:

We are in favor of S-1553 as it will help South Dakota get its water development underway. The Federal Government has a moral and legal commitment to South Dakota because the state gave up thousands of acres of land for flood control and navigation.

With water development South Dakota would not be in need of federal disaster payments, as it would stabilize the economy.

We have farmed for 46 years and have suffered great losses from drouth. There is strong local support for Cendak and we are strongly in favor of its development.

Sincerely,

John Mortimer
Mrs. John Mortimer

PETROLEUM DEPARTMENT
HURT SCHWARTZ, DEPT. MGR.
PHONE 2461

FEED, SEED AND FARM
SUPPLY STORE
ALLEN RASMUSSEN, DEPT. MGR.
PHONE 2181

GRAIN ELEVATORS
FRANK BELL, JR., DEPT. MGR.
PHONE 2201

JERAULD COUNTY FARMERS UNION

WESSINGTON SPRINGS, SOUTH DAKOTA

Allen Rasmussen
GENERAL MANAGER
PHONE 2181



September 11, 1981

The Honorable Frank Murkowski
United States Senate, Chairman,
Sub-Committee on Water and Power

Chairman Murkowski:

I am, Allen Rasmussen, General Manager of Farmers Cooperative at Wessington Springs, S. Dak.. Our company serves approximately 650 farm customers in the Jerauld, Buffalo and Hand County areas of South Dakota.

Our recent drought has again proved that we must have Water Development in our State and County. I feel that the Cendak Water Project would supply water to a portion of our farming area, which would give us a market to purchase corn and feed for the livestock producers of our area. Presently we are shipping in approximately 42,000 bushel of corn a month from the Minnesota and Eastern South Dakota markets. Due to the increased cost of fuel the freight on these commodities are becoming unbearable to the livestock feeders of my area. When the profits to our livestock feeders go down this in turn makes a big impact on Main Street of our small town, as the producer slows down on purchases.

I support the provisions of S-1553, and feel that it will make a great economic boost to our community and State if we can develop and use the water properly. As an old saying goes that is very true in this instance, PUMP IT DONT PACK IT, Save energy and use our water.

Thank you for your consideration,

Yours Truly,


Allen Rasmussen, General Manager
Jerauld County Farmers Union
Wessington Springs, S. Dak.

September 11, 1981

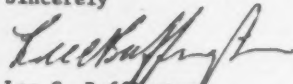
Chairman, Frank Murkowski
Senate Subcommittee on Water & Power

Dear Mr. Murkowski

I support S-1553 and the proposal for a feasibility analysis of the CENDAK irrigation proposal. I further support an expansion of study area to include Jerauld County. As a livestock producer, we are cutting our operation by about 75% this winter due to lack of forage. All reserve forage was fed last year and we have very little hay and small grain production this year. Poor prices are hard to cope with, but a major drought in an area dependent on dryland feed production is much more devastating both to the individual producers and the service industry in the small towns the producers support.

I'm presently a director of the South Dakota Sheep Growers Association, The Ram Test Station and the Wessington Hills Sheep Producers and reflect the feelings of many the livestock producers in the area as well as my own.

Sincerely



Lee C. Buffington

September 11, 1981

Chairman Frank Murkowski
Senate Sub-Committee on Water and Power

I am a Farm Business Management Instructor, as well as a farmer, working with thirty-six (36) farm families in Jerauld, Aurora and Beadle counties.

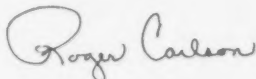
As a group, we are all interested in water development in South Dakota as addressed in S-1553 regarding the CENDAK project. We are hopeful that a feasibility study would include our area.

While we realize that not all of our land is suitable for irrigation, we do know the effects that drought has on our ability to consistently produce feed for our livestock. Without a reliable source of feed nearby, the size of our herds, the number of cattle on feed, etc fluctuates widely as does our net worth.

Each year more and more of our farmers are forced to leave the farm not due entirely to a lack of rain or water but that is the cause for many.

South Dakota has made many sacrifices for those outside her borders who rely upon energy produced by the power plants located on the Missouri River. It is time that water development in South Dakota be pursued and caught.

Thank you.



Roger Carlson
Wessington Springs, SD

September 11, 1981

Chairman Frank Murkowski
Senate Subcommittee on the Water & Power

I am a cattle feeder in eastern Jerauld County. I support S-1553 calling for a feasibility study of CENDAK. I also support an amendment to include Jerauld County as part of the study area. Two natural watersheds, Firesteel Creek and Sand Creek, could provide flow from a canal into the James River and/or Lake Mitchell.

A continuous supply of water into one or both of these waterways could be used by farmers in this area to assure a larger and more stable supply of feed which would support more livestock feeding in this area.

Nearly all businesses in this area are related either directly or indirectly to the agriculture sector. I feel the vast majority of them would benefit from the passage of S - 1553.

Sincerely



Tom Olsen

OFFICE OF
FAULK COUNTY AUDITOR
FAULKTON, SOUTH DAKOTA

Faulkton, S.D.
September 1, 1981

To Whom it May Concern:

At their meeting today, the Faulk County Board of County Commissioners voted to support modification of the Oahe Project as stated in House Bill #4347 and Senate Bill #1553, and urge passage of same.

Signed:

John Haffert, Comm.

Richard H. Lamm, Comm.

David S. Lamm, Comm.

Robert C. Lamm, Comm.

_____, Comm.

Dated this 1 day of September, 1981

STATEMENT
on
S.1553 H.R.4347

Senate Subcommittee on Water & Power
Senator Frank Murkowski

Mr. Chairman,

I would like to state that the majority of S.D. citizens, including myself, favor S. 1553 if this Bill will serve as an instrument to get sound water development moving forward again.

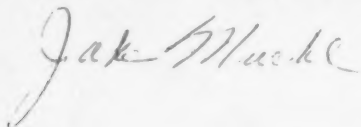
I would like to give you a little of my background. I moved with my parents to Faulk Co., South Dakota in 1919. My family has been in the farming and livestock business all our working lives. I started farming in 1932 and we experienced drought and hard times for a lot of years. I like to think that I know the value of water on the land.

I had the pleasure to serve from 1972 to 1976 on the South Dakota Board of Water and Natural Resources. During that period a number of Rural water systems were started and completed. Some small irrigation projects were started and completed, but some failed because adequate financing was not available.

South Dakota has adopted a State Water Plan listing 10 major water projects. All ten are important and necessary for the economic well-being of S.D. and the nation. It will enhance our recreational and environmental opportunities for future generations.

I oppose deauthorization of the Oahe Project. I would favor modifications, cancel out the present contracts with Spink and Brown County Irrigation Districts and the Oahe sub-district, use and complete the Oahe facility from Pierre to Blunt, study and build the proposed Cendak Project, study and build the Garrison Diversion Project. Garrison and Cendak complement each other. All area east of the Missouri River would benefit future generations.

I congratulate the S.D. Congressional delegation for co-sponsoring this piece of legislation. We urge your committee to amend S.1553 to modify the present Oahe authorization whereby the facilities all ready constructed could be incorporated into a new delivery system. With Governor Janklow's strong leadership for water development, I can see a bright future for agriculture, industry, and recreation for South Dakota and surrounding states.



Sincerely,
Jake Muehl
Box 511
Faulkton, S.D. 57438-0511

RESOLUTION

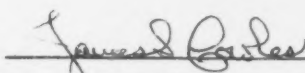
WHEREAS, the Kiwanis Club of the City of Miller recognizes the importance of the timely development of the States water resources, and

WHEREAS, the development of said resources has not kept pace with the economic and social needs of the State, and

WHEREAS, the Kiwanis Club of Miller believes HR 4347 and S 1553 identical bills recently introduced by South Dakota's Congressional Delegation would provide a vehicle through which the development of the States water resources and in particular the CENDAK irrigation project could proceed.

NOW, THEREFORE BE IT RESOLVED, by the Miller Kiwanis Club that its members support the provisions of HR 4347 and S 1553 and urges its prompt passage by the Congress of the United States.

Resolution adopted by a unanimous vote of the members present this 1st day of September 1981.



JAMES L. COWLES
PRESIDENT

RESOLUTION #81-6

WHEREAS, the Common Council of the City of Miller has for many years advocated the wise development of South Dakotas Water Resources for the benefit of the residents of the City of Miller and the State of South Dakota, and

WHEREAS, the development of the States water resources has not occurred as originally planned thus delaying the numerous economic and social benefits needed to advance the well being of the States citizenry consequentially subjecting them to needless hardships caused by extended periods of drought, and

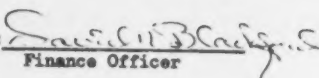
WHEREAS, a long time commitment made to South Dakota by the Congress of the United States by the Flood Control Act of 1944 remains unfulfilled, and

WHEREAS, there was recently introduced, by South Dakotas Congressional Delegation S-1553 and HR 4347 twin bills which would provide a means whereby the State and Federal Government could cooperate toward the ultimate development of our valuable water resources one of which is the GENDAK Irrigation Project, while at the same time honoring at least a portion of the Federal commitment made under the 1944 Flood Control Act.

NOW, THEREFORE BE IT RESOLVED, the Common Council of the City of Miller, on behalf of its citizens, support the legislation contained in S-1553 and HR 4347 and urges the Congress of the United States to enact the provisions of these bills at the earliest possible date.


E.W. Carr, Mayor
City of Miller

ATTEST:


Finance Officer

September 11, 1981

Senator Frank Murkowski, Chairman
Senate Subcommittee on Water & Power
Dirksen Senate Building
Washington, D.C. 20510

Dear Chairman Murkowski,

I would like to submit this letter to the Senate Subcommittee on Water & Power Resources regarding deauthorization of the Oahe Unit Irrigation Project, and Senate Bill 1553.

I have farmed and ranched in the Hughes County, South Dakota, area most of my adult life. In my opinion, the Oahe Unit Irrigation Project should have never been authorized because it is harmful to the majority of the counties and the people concerned, it would result in a waste of federal tax dollars, and would obligate the local taxes over a 50-year period of time. The Pierre Canal, one feature proposed for construction in Hughes County, would split the county and provide no crossings for livestock and limited crossing for rural transportation.

I have three pastures near the canal right-of-way required for the Pierre Canal. The right-of-way and partially completed canal separate one pasture from the other two, decreasing the useability and value of all three to me. The partially completed structure is an eye sore, full of weeds, and results in runoff problems. It is very troublesome for me to have to drive cattle across the ditch from one pasture to other. The state it is in now, no one along the canal could get any benefit from it. The government would have to sink millions of more dollars into it before it could be operational for any worthwhile use.

Near my land, the ditch crosses a natural deep draw, which was filled in by the Bureau of Reclamation when they started construction on the canal. The natural drainage of the draw above the canal, is led down to the bottom of the draw by concrete spillway. The spillway has washed out several times since it was constructed, and has been repaired, but not increased in size. I fear that if the ditch is left in a hold status by the government, nothing will be done about this erosion and runoff problem that was created by the ditch and it will be a trouble spot for many years to come. The government should be responsible for any damage that is caused by this and other problems along the canal. If the original authorized Oahe Project is not going to be built, and I certainly hope it is not, then I believe that the United States Congress should deauthorize the project and return the land along the canal right-of-way back to the original owners so that their farms and ranches will be whole again. As much as possible, the draw which I have mentioned should be put back into its natural bed.

As a landowner along the proposed Pierre Canal right-of-way area, I would not be interested in any proposals to complete the Pierre Canal for use as an irrigation delivery system in Hughes County because it would be far too costly for the limited acres in the county to support and repay, the majority of the water would seep out of the canal, and local landowners could not afford to cover the cost of operation maintenance of such a massive cut which in some places is one hundred feet deep. Further, I would state that when the United States Government took easements and acquired the land for the Pierre Canal right-of-way they did it for the authorized Oahe Project, and not other schemes or irrigation diversion proposals. I and other landowners along the area would object to our land being used for some undetermined diversion schemes or proposals.

I urge the Senate Subcommittee on Water & Power Resources to approve SB 1553, and deauthorize the Oahe Unit. I present this testimony as a landowner whose land was acquired by the Bureau of Reclamation as part of the Pierre Canal right-of-way area. I formally request that the United States Congress and the U.S. Government return my property to me.

Sincerely,

Loui Roth
Route 3
Pierre, S.D. 57501

September 12, 1981
Rt. #3
Pierre, S.D. 57501
Merl H. Putnam

TO: Senate Sub-Committee on Water and Power
SUBJECT: Oshe Deauthorization

For Committee Members:

I wish to make the following comments in support of the deauthorization of the Oshe Project.

The Oshe Canal has destroyed much productive land and will continue if not deauthorized. This destruction is uncalled for.

It has severed productive agricultural units thus forcing owners or operators to travel many extra miles. County section line roads are severed with few bridges being used to allow normal road use. Many unnecessary miles must be traveled.

The sections of the canal that have been excavated have shown severe erosion thus indicating an expensive annual rebuilding. The ditch fills with weeds each winter indicating another annual expense. The seepage and evaporation would seriously reduce the quality and volume of water available for my use.

The acquiring of the canal right of way has caused an increase in our taxes in this area with no benefit. The county will have to maintain the few bridges that do span the canal.

This will be an added tax burden.

The right of way fence has already deteriorated so it is no longer adequate for holding cattle. Any repair has to be done by the landowners. This is just a beginning.

The Oahe Project is another example of what an unsupervised, non-accountable Government bureaucracy will do. I believe that the citizens of our United States deserve something better.

I am including a petition that I carried opposed to the Oahe Project or any other kind of a ditch. I wish that it would be made part of the record.

Sincerely,

Merl H. Putnam

Merl H. Putnam

Harold Brink and Family

Phone: (605) 472-2148

Brink's Charolais

RURAL ROUTE 2

REDFIELD, SOUTH DAKOTA 57469

Senate Committee of Water and Power
 ATTENTION: Senator Frank Murkowski

Dear Senator,

I am a farmer/rancher in Spink County. My son-in-law and daughter and I farm together. Due to drought in the last years and high cost of machinery, my children are dependant on government diaster payments to help pay the basic farm costs.

Maybe if the CENDAK water project materializes my children might have a chance to buy the family farm. Fred Brink, my grandfather, came over from Sweden in the 1800's to the "Land of Opportunity". I have always thought of America as that place until an independent farmer/rancher like myself has to sell off most of my foundation purebred Charolais cattle due to a drought that could have been avoided if we (South Dakotans) would have had irrigation. Maybe with irrigation our bad crop years would be halfway bearable.

If us farmer/ranchers had irrigation we would raise more food for the world then in turn we would spend more money on new machinery. Therefore the large cities that manufacture these items wouldn't need government assistance either. This water project would create work for many people. To build and maintain the CENDAK project it will require large quantities of equipment and people, therefore the project will create more factory jobs. This will be one large step to help improve the country's economy.

In the 1950's when the Missouri River was dammed up at Pierre, South Dakota we, the South Dakota people, were promised electricity at a reduced rate and irrigation projects at a low interest rate in exchange for all of the fertile land the reservoir ruined when the Missouri backs up. Up until this date I haven't recieved any of the benefits promised to us by the government.

To sum up what I am trying to tell you is this; 'If the government helps us with the Cendak project, they will have more money being spent into the economy-less diaster payments and diaster loans to make more young people taking over the family farms-more food being produced at a lower cost.

-1-



Quality Purebred Charolais

Harold Brink and Family

Phone: (605) 472-2148

Brink's Charolais

RURAL ROUTE 2

REDFIELD, SOUTH DAKOTA 57469

Page 2

Can the government afford not to help us? If they don't help us now, they won't have to. Because the family farm operation will be a thing of the past.

Senator Burkowski, could you live with yourself knowing you helped extinct the family farm?

Sincerely a concerned South Dakotan,

Harold Brink

Harold Brink

*Quality Purebred Charolais*

RUSHMORE Electric POWER COOPERATIVE, INC.
Post Office Box 2414, Rapid City, SD 57709

MEMORANDUM

DATE: September 10, 1981

TO: Senator Frank Murkowski, Chairman
Senate Committee on Water and Power

FROM: Butte Electric Cooperative (BEC), West River Electric Association (WREA)
and Black Hills Electric Cooperative (BHEC)

SUBJECT: September 12, 1981 field hearing, Pierre, South Dakota - S. 1553

Please accept this note into the record as testimony at the 9:30 A.M. September 12, 1981 field hearing, Pierre, South Dakota relative to S. 1553.

The rural electric cooperatives of Butte Electric Cooperative, Newell; West River Electric Association, Wall and Rapid Valley; and Black Hills Electric Cooperative, Custer; whose service territory consists of approximately one-third of western South Dakota, wish to encourage passage of S. 1553 as it appears in the Congressional Record July 30, 1981 (Vol. 127, No. 117).

Thank you for your consideration.



Submitted by Craig A. Satter, Director of Conservation and Information
Rushmore Electric Power Cooperative on behalf of BEC, WREA and BHEC.

cc: John Wheeler, Manager, Butte Electric Cooperative
Thor Sautter, Manager, West River Electric Association
Elmer Flatt, Manager, Black Hills Electric Cooperative
H. K. Malon, Manager, Rushmore Electric Power Cooperative

MALONEY, KOLKER, FRITZ, HOGAN & JOHNSON

ATTORNEYS AND COUNSELORS AT LAW

GROTON OFFICE
BOX 467
GROTON, SOUTH DAKOTA 57445
397-8464

205 BERKSHIRE PLAZA
405 8TH AVE. N. W.
ABERDEEN, SOUTH DAKOTA 57401
(605) 225-5890

IPSWICH OFFICE
BOX 487
IPSWICH, SOUTH DAKOTA 57451
426-6015

DENNIS MALONEY
RICHARD KOLKER
THOMAS A. KOLKER
DANIEL R. FRITZ
MICHAEL T. HOGAN
DREW C. JOHNSON
JULIE M. JOHNSON

September 9, 1981

United States Senator Jim Abdnor
Field Office
Pierre, SD 57501

ATTENTION: Barbara Driscoll

Dear Barb:

I am unable to be in Pierre on Saturday, September 12th, to testify in person before the Senate Subcommittee on Water and Power, but I have prepared a written statement which I am enclosing with this letter and would ask that you file as part of that record.

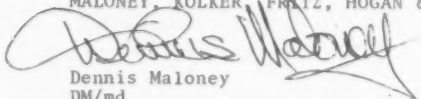
We are holding our annual Chamber of Commerce Board Retreat and that must of necessity take priority.

Please extend my greetings to Jim and give him my best wishes and I hope that the hearing goes very well. If you feel it would be helpful or beneficial to have statements from other people from northeastern South Dakota and whose position or experience would carry sufficient weight with the Committee do not hesitate to call me or call our Chamber Office and ask for Mark Larsen, our President, and we will give our very best efforts to try to get something into the record either in advance of the hearing or that can be sent to the Committee back in Washington.

Again, please give my best wishes to the Senator.

Sincerely yours,

MALONEY, KOLKER, FRITZ, HOGAN & JOHNSON


Dennis Maloney
DM/md
Enc.

MALONEY, KOLKER, FRITZ, HOGAN & JOHNSON

ATTORNEYS AND COUNSELORS AT LAW

GROTON OFFICE
BOX 467
GROTON, SOUTH DAKOTA 57441

397-8464

205 BERKSHIRE PLAZA
405 8TH AVE N W
ABERDEEN, SOUTH DAKOTA 57401

(605) 223-5890

IPSWICH OFFICE
BOX 487
IPSWICH, SOUTH DAKOTA 57431
426-6013DENNIS MALONEY
RICHARD KOLKER
THOMAS A. KOLKER
DANIEL R. FRITZ
MICHAEL T. HOGAN
DREW C. JOHNSON
JULIE M. JOHNSON

September 9, 1981

Senator Frank Murkowski
Chairman
Senate Subcommittee on
Water and Power

Senator Murkowski:

I am unable to be personally present for the field hearings you are conducting in Pierre, South Dakota, on Saturday, September 12, 1981. I am writing this letter to you, however, Sir, to encourage your support and that of the entire subcommittee for S-1553, which is a Bill that has been introduced by Senator Jim Abdnor and speaks to vital and critical water projects needed by our state and the entire upper midwestern part of the United States.

As a life long resident of northeastern South Dakota, I think I speak for all residents of our area and for all South Dakotans when I say that all of the projects which are part of S-1553 are vital and essential to the economic future of our state and, thus, have tremendous impact upon our nation.

We have a critical need for water development in our state and have the basic ability to have water accessibility for multiple purposes if appropriate federal legislation is enacted to aid and assist in the enhancement of that most precise resource.

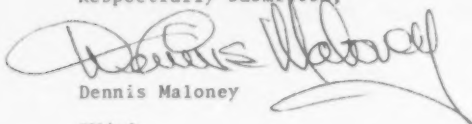
As current Chairman of the Board of the Aberdeen Area Chamber of Commerce, I urge you, Sir, and your committee to give favorable consideration to S-1553 and recommend it in its entirety to the full United States Senate.

While we have had difficulty in our state in prior years with reference to our position on water development, I think that unfortunate dichotomy is behind us and we are now fairly well unified in our endeavors and efforts to secure much needed water development programs for our state that have current economic justification and are fully and completely workable.

Again, I apologize for not being personally present and my inability to be present is because I am committed to other Chamber activities which require my personal attention.

I hope your stay in South Dakota is a pleasant one and I know that there will be many who will appear before your Committee giving their verbal support for the efforts of our good friend and able Senator Jim Abdnor.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Dennis Maloney", with a stylized flourish at the end.

Dennis Maloney

DM/md

September 12, 1981

Senator Frank Murkowski
Water & Power Subcommittee
U.S. Senate
Washington, D.C. 20510

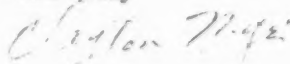
Dear Sirs:

I feel that the Oahe Project should be deauthorized. This canal should be scrapped. It cut several landowners in two and they have to go two and three miles to get to their land on the other side. There is too much sand & gravel and it would cost millions to cement this off.

I rent SE $\frac{1}{4}$ 21-111-77. We would take the right-of-way of Pierre Canal back if it was filled up so we could use it. We sold this to the Gov't free will.

This canal would do more harm to the landowners than good. We are not interested in the CENDAK project either.

Yours truly



Clayton Nye

September 12, 1981

Chairman Frank Murkowski
Sub-Committee on Water and Power

Concerning: September 12, 1981 Oahe deauthorization hearings in
Pierre, South Dakota.

Dear Chairman Murkowski:

I am submitting this letter to inform you of my opposition to the Oahe Project. My land starts adjacent to Parcel 30. This parcel, as you may know, is where the last of the land was condemned for the Pierre Canal. If construction resumes on the Oahe Project or another type of a canal, a ditch is proposed to go across my land.

There are many problems that surface with a canal. Much of the canal associated with the Oahe Project will be built above ground, in the fashion of a two sided dike. I've attached part of a story that was in a newspaper from Garrison, North Dakota. This story shows the leaks and flooding that will occur with this type of a project.

My land is productive and I don't need the problems that will come with the Oahe Project, to reduce that productivity. This country loses enough good farmland each year. We don't need to go out of our way to see how much more we can destroy.

Thank you,

Brad Caldwell
Brad Caldwell
Blunt. S.D. 57522

McLean County Independent

Garrison, N.D. 58540

Canal threatens property

A group of Turtle lake area farmers headed by Herb Nathan said Monday they will ask that the Water and Power Resource Service take immediate steps to halt any further work on the canal portion of the Garrison Diversion Project until such time as leaks on segments of the McClusky Canal have been repaired satisfactorily.

Nathan, in a Monday press conference at his farm home, said he was "deeply concerned over the damage to private land, including his own, which is being flooded by leaks in the canal." He said that the Water and Power Resources Service (WPRS) is aware of the leaks and is taking some steps to stabilize the problem, "but that isn't enough and unless something is done quickly, myself and some of my neighbors stand to lose the production of large amounts of our farm acreages," Nathan said.

While he has in the past been linked with a group opposing the Garrison Diversion project, Nathan says that label is unfounded. "I have never opposed irrigation but I do oppose the present form of the project. I feel that the federal government must reassess the existing plan and modify it. That modification should include use of pipes for water transport rather than the

existing canal. There are leaks all along the canal but some are worse than others and they are the ones that can be seen. Still others are apparently creating an increase in the water table and will eventually ruin lots of lowland next to the canal," Nathan said.

Nathan said he has been plagued by leaks for some time but in the last three weeks the leaks have increased dramatically. He said he informed the WPRS about the leaks in early November and personnel from that agency arrived to begin pumping water from his property back into the canal.

This week the leaks erupted again and began flooding cropland and once again the WPRS personnel arrived with pumps. "They are trying to handle my problem but in the meantime dozens more leaks are showing up between my farm and Turtle Lake and they can't possibly handle them all," Nathan said.

The rural Coleharbor farmer blames the leaks on failure to seal the canal bottom during construction. "The contractors put in some clay liners in gravel areas and there doesn't seem to be leaks there, but in areas that they didn't line, there are all kinds of leaks that are putting canal waters on good farmland. The only people benefiting from those leaks are the contractors," Nathan said.

Earl Goven, who farms northwest of Turtle Lake and has land on both sides of the canal, said a recent leak has flooded a portion of cropland on his property south of the canal "and I'm afraid that if it isn't fixed quickly, I could lose an entire quarter of excellent cropland by next summer."

Goven said he contacted the State Water Commission and WPRS to secure logs on wells drilled in the area to determine changes in water levels. He said that one well located near the leak on his land recorded water at 22.3 feet below ground level in 1975 but in early October, 1980, that same well's water level had risen nearly five feet to 17.6 feet.

"I surveyed my land from the well to the creek's area and found that land at 17 feet is easy to see why it's under water. What I want to know is why has the water table risen so much in five years, when those years were relatively dry years. Nobody is giving me any answers," Goven said.

Goven said he is afraid that unless something is done to check the leaks, "my land will be good for nothing but wildlife and waterfowl." He said there has been some talk that the water was runoff but dismissed that as nonsense, "because that water appeared on my land during the driest year since the 1930's."

Senator Frank Murkowski, Chairman

It is my opinion that none of the existing features of the old Oahe Irrigation Project should be used in implementing new water development.

I have been opposed to open ditching and canals since the beginning of the project.

My husband set up a private irrigation system of our own on our farm which cost much less than we would have had to pay under the Oahe project.

If a feasible water development plan can be worked out, I would not be against it and hope it can be accomplished.

Mrs. H. D. Goe

Mrs. H. D. Goe

Box 222

Blunt, S. Dak. 57522

September 9, 1981

Senator Frank Murkowski, Chairman
Senate Sub-Committee on Water and Power
U.S. Senate
Dirksen Senate Office Building
Washington, D.C. 20510

Dear Senator Murkowski:

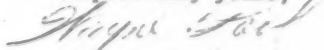
Due to a scheduling conflict, I will be unable to attend your September 12 Hearing in Pierre, South Dakota. As a result of this, I am asking Ted Albright to present this letter to you so it can be made part of the record.

The community of Blunt has been very concerned, for many years, over the development of the Oahe Project. As Project development was proceeding, we were dismayed at the lack of factual information concerning the impacts to the community, particularly in such areas as ground water levels, seepage, and the effect on ground water supplies as a result of the development of the Blunt Reservoir. We had great difficulties getting information concerning these areas. We were finally forced to request the information the Bureau of Reclamation had, through the Freedom of Information Act. We were surprised to learn, after this lengthy struggle, that the plans and designs were very inconclusive. We were also very surprised of the fact that the Bureau was knowledgeable of a seepage problem, but they didn't have a plan to protect the interests of the city of Blunt.

The city of Blunt continues to be very concerned about any alternative plans, which call for the development of the Blunt Reservoir. In making your decision, this Committee should take into consideration the serious problem of the inabilities of the Bureau in the past, to adequately design a plan which would be feasible and protect the rights and properties of the citizens of Blunt.

Thank you for the opportunity to present this information for your record.

Respectfully yours,



Wayne Pool, Mayor
Blunt, S.D. 57522

City Of Blunt

Blunt, S. Dak. 57522 ;

Mr Chairman, members of the committee. my name is Wayne Pool and I am the Mayor of the city of Blunt, population 425, located 21 miles east of Pierre on highway 14, and located in the Medicine Creek valley about 5 miles below the proposed Blunt reservoir and dam.

The Blunt City Council is on record as being opposed to the construction of the Blunt reservoir and dam.

On March 10, 1976 the law firm of May, Adam, Gerdes and Thompson contacted the Bureau of Reclamation at Huron and asked for a copy of an environmental impact study that would show the impact the proposed reservoir and dam would have on the city of Blunt. The Bureau responded on March 23, 1976 stating that general impacts of the proposed dam on the local area were described in the final document but the supply was limited and suggested going to the public library for a copy. The Bureau stated no specific impacts concerning the city of Blunt were discussed in the statement and that the Bureau had not done a specific study concerning the city of Blunt.

On March 7, 1977 three staff members from the Bureau of Reclamation office in Huron met with the Blunt City Council and discussed potential impacts of the Blunt reservoir on the city. The Bureau stated that during construction of the dam and reservoir, the underground aquifer would be sealed off and there would be no waterflowing down the medicine creek for a period of about 5 years. This same aquifer and creek is where the city of Blunt gets it water. They stated that they had a couple of alternate plans to provide water for the city of Blunt.

1. Haul water from Pierre in rail cars.
2. Utilize an artesian well near the city, which is not fit for human consumption
3. Dig wells above the construction area and pipe the water to the present city reservoir
4. Dig wells above the construction area and pipe the water around the construction area and let it free flow back into medicine creek and hope that it would re-charge the aquifer so that the city of Blunt might have water.

None of the four alternatives is acceptable to the City of Blunt. No mention is made as to how the people living in the country around Blunt can expect to get water for the construction period.

In June of 1978 I requested some documents regarding the Blunt Dam and Reservoir from the Bureau of Reclamation at Denver and was informed that if I wanted to come to Denver and look for specific documents, when found they would make copies for 25 cents each per sheet.

Mr Chairman, members of the committee, construction of the proposed Blunt dam and reservoir will have an adverse affect on the City of Blunt and surrounding area for many years. We are not opposed to irrigation, but we are certainly opposed to the construction of the Blunt dam and reservoir on the north fork of the medicine knoll creek.

Wayne H. Pool Mayor

September 12, 1981

Senator Frank Murkowski
Senate Sub-Committee on Water and Power
United States Senate
Washington, D.C. 20510

Dear Chairman Murkowski:

I am enclosing a petition that I circulated in opposition to the Oahe Project and the CENDAK Project. I received a total of twenty-five signatures, including my own. I am respectfully requesting that the Sub-Committee make this part of the record for your hearing on the Oahe Project.

I think that it would be a very grave mistake for your Sub-Committee to authorize funding for any studies to determine the use of the Oahe Canal. From the petition that I have provided you and that others have provided you, you can see that an open ditch delivery system is very unpopular in this area. The people have rejected this type of a project in the past and it is my belief that they will continue to do so because of the great problems that are associated with a ditch type project.

I urge you, Chairman Murkowski, to change S-1553 so it will not provide funding for studies and so it will deauthorize the Oahe Project. Thank you.

Respectfully,

George F. Bowman, Jr.
George F. Bowman, Jr.
Route 3
Pierre, S.D. 57501

PETITION

We the undersigned landowners or tenants object to the so called West Hughes County Irrigation proposed district. We therefore request and petition the Oahe Conservancy Sub-District Board to refuse the funding for studies by the West Hughes County Irrigator's Association in conjunction with the Cendak Water Supply System.

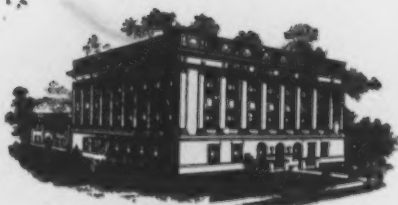
We see the plans of an open ditch delivery system as having the same objections as the original Oahe Project. Such as wildlife mitigation, land severance and land loss, which the people have rejected in the past. We feel these plans would only shift and continue the controversy and hinder any acceptable water development in the near future.

<u>Name</u>	<u>Address</u>	<u>Date</u>
George F. Brown	Rt 3 Pierre S.D.	1-19-81
Don W. Brown	Rt 3 Pierre S.D.	1-19-81
Frank Schmitt	Rt 3 Pierre S.D.	1-19-81
Paul B. Borst	RR #3 Pierre S.D.	1-19-81
Shirley A. Borst	RR 3 Pierre S.D.	1-19-81
Paul L. Borst	RR 3 Pierre S.D.	1-19-81
Orla Leisachy	RR 3 Pierre S.D.	1-19-81
John J. Leisachy	RR 3 Pierre S.D.	1-19-81
Harry Starkey	Rt 3 Pierre S.D.	1-19-81
Edward E. Smith	Route 3 Pierre S.D.	Jan 19, 1981
Mrs. Edward Smith	Rte 3 Pierre S.D.	Jan 19, 1981
Raymond Shields	RR 3 Pierre S.D.	1-19-81
John Shields	Rt. 3 Pierre S.D.	1-19-81
Arthur B. Starkey	Rt 3 Pierre S.D.	1-19-81
Pauline Starkey	Rt 3 Pierre S.D.	1-19-81
Myra Starkey	Rt 3 Pierre S.D.	1-19-81
Raymond Statler	Harold S. Dak.	1-19-81
Alvin Webb	Harold S. Dak.	1-19-81
Harry Telles	Harold S. Dak.	1-19-81
John A. Bair	Harold S. Dak.	1-19-81
David Ramsey	Harold S. Dak.	1-19-81
Ronald Jensen	Harold S. Dak.	1-19-81
Philip Peters	Pierre S.D.	1-20-81
Kevin Johnson	RT 3 Pierre S.D.	1-22-81
Jim Howard	RT 3 Pierre S.D.	1-22-81

I swear that the persons listed above have signed this petition in my presence.

George F. Brown
 Name of petition carrier
Rt 3 Pierre S.D. 57501
 Address

Dated this 22 day of January, 1981



BOARD OF COUNTY COMMISSIONERS

BEADLE COUNTY, SOUTH DAKOTA

September 8, 1981

Chairman-Senator Frank Murkowski
U. S. Senate Sub-Committee
Water and Power

Dear Senator Murkowski:

We as County Commissioners are interested in the development of the water resources that we have in our great State of South Dakota. We are in full support of Governor Janklow's State Water Plan that he proposed here in Huron on August 13, 1981.

We agree with the positive action taken by the 1981 South Dakota State Legislature authorizing certain Water Resource Projects that if and when the time comes that they are developed, these projects will benefit all of the great people of the State of South Dakota.

As Commissioners from Beadle County, naturally our main and foremost concern is the development of Water Projects that will directly benefit this area of the State.

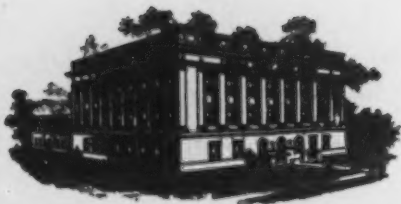
The Cendak Project, we feel, is the most positive Multi-Use Water Project that is being explored at the present time that would benefit all of the people in Central South Dakota from the Missouri River East through the counties of Hughes, Hyde, Hand, Beadle, the Southwest portion of Spink and the Southeast portion of Faulk counties. We feel that this project is economically feasible, workable and the pumping, canal and storage facilities originally designed for the Oahe Project should be utilized in the development of the Cendak Project. The majority of the rural land owners in the six counties that directly benefit from the Cendak Project have shown their sincere concern for Water Development with the time and money that they have devoted to this proposed project.

We believe that the Garrison Diversion/James River Modification Study should be continued for such benefits as irrigation, farm domestic & livestock water, municipal & industrial water, wildlife habitat enhancement and other uses.

We also are in favor of the development of Rural Water Systems for the entire State of South Dakota and particular for our area of the State, the Southern Spink/Northern Beadle Municipal Water System. The WEB Project and the Clark Rural Water System.

In conclusion, we would like to take that step forward and say "The Time Is Now For Water Development That Our Great People of South Dakota Deserve."

Thank you,



BOARD OF COUNTY COMMISSIONERS

BEADLE COUNTY, SOUTH DAKOTA

Boyd Wiedenman
 BOYD WIEDENMAN, CHAIRMAN OF THE BOARD OF
 BEADLE COUNTY COMMISSIONERS-Muron, S.D.

Jerald A. Micheel
 JERALD A. MICHEEL, COMMISSIONER

W. K. Dammeier
 W. K. DAMMEIER, COMMISSIONER

Vernon A. Stahly
 VERNON STAHLY, COMMISSIONER

Norman E. Langbehn
 NORMAN LANGBEHN, COMMISSIONER

ATTEST:

K. O. Kauth
 K. O. KAUTH
 BEADLE COUNTY AUDITOR

C/C Governor William Janklow
 Senator Larry Pressler
 Senator James Abdnor
 Congressman Clint Roberts
 Congressman Tom Daschle

September 10, 1981

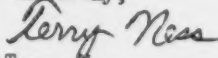
Senator Frank Murkowski
U.S. Senate
Washington, D.C.

Dear Senator Murkowski:

I would like this letter submitted to the Sub-Committee on Water and Power, for the hearing on deauthorization of the Oahe Irrigation Project. I live north of the proposed Pierre canal for the Oahe Project. As a farmer and a rancher, I can appreciate the hardships my neighbors have to face daily with right of way fences, partially completed ditches, and the threat that someday it is possible that construction on the ditch may resume.

I hope that the Sub-Committee will deauthorize this project and move away from the idea of an open canal delivery system. Most of the people in this area are opposed to this type of a concept anyway. Also, the land should be sold back to the area landowners. Since only 3.5 miles has had major construction, there wouldn't be much of a problem to accomplish this. I am including for the record, a copy of a letter from the Bureau of Reclamation to the Oahe Conservancy Sub-District. It will provide you with a little more detail as to what has been completed with this project. Thank you for your action to deauthorize the Oahe Project.

Sincerely,



Terry Ness
Route 3
Pierre, S.D. 57401



IN REPLY REFER TO: 220
832.-

United States Department of the Interior

BUREAU OF RECLAMATION

Upper Missouri Region
Missouri-Oahe Projects Office
P.O. Box 825
Huron, South Dakota 57350

NOV 11 1977

Mr. Tom P. May
Oahe Conservancy Subdistrict
P.O. Box 1985
Aberdeen, South Dakota 57401

Dear Mr. May:

This is in response to your letter of inquiry dated November 8, 1977.

Your numbered questions, followed by the answers are as follows:

1. Regarding only the Oahe pumping plan, including the outlet structures, pump house, motors and pumps:

- a. Are any of these features operational? If so, which ones?

None.

- b. If not fully operational, what percentage of the whole pumping plant, including outlet structures is completed? (If percentages are not possible, a brief explanation would be sufficient.)

Initial construction of the pumping plant is 99.4% complete. No construction work has been done on installation of pumps and motors, finishing building interior, discharge line or outlet works. Overall, the operational plant, including outlet works, is approximately 72 percent complete on the basis of funds expended.

- c. Are the pumps installed?

No

- d. What is the total remaining cost necessary to make the pumping plant operational to the point where it could deliver water to the source of the Pierre Canal, Reach 1A?

Approximately \$7,660,000.

e. What amount has been obligated or expended for the work done to date?

Approximately \$19,620,000.

2. Regarding only Reach 1A and 1B of the Pierre Canal:

a. What is the total length of these reaches in miles?

Reach 1A - about 21.1 miles.

Reach 1B - about 1.3 miles.

b. What is the total number of miles that are operational (i.e. carry water if other features were complete)?

None, until all pertinent features are complete.

c. What is the total number of miles on which only fencing of canal right-of-ways has occurred?

Approximately 9.2 miles fenced.

d. What is the total number of miles that are not operational but on which some actual canal excavation has begun?

Approximately 13.2 miles with excavation started.

e. What is the total number of miles on which no excavation for the actual canal has begun but on which other construction has commenced, like culverts, etc. (Please do not include miles referred to in "c" above)?

None. No work is commenced until the right-of-way has been fenced.

f. Total number of dollars expended or obligated, to date, for work done?

Approximately \$10,950,000.

g. Total number of dollars necessary to bring these features to fully operational state (assuming all other related features were operational)?

Approximately \$8,500,000.

h. Please use current cost estimates based on today's prices.

The prices used are from the latest official estimates.

i. Reach 1B; Length? - Percentage fully completed and operational? Reach 1A; Length? - Percentage fully completed and operational?

See 2a. and 2b.

3. Regarding only the Pierre Canal, Reaches 2A and 2B only:

a. What is total number of acres for 2A? 2B?

For right-of-way purposes, Medicine Knoll Creek Siphon is a part of Pierre Canal. The portion to be purchased with Reach 2A will require 4.93 acres in fee and 17.78 acres in temporary construction easement. The following is the estimated requirement for Reaches 2A and 2B (including a portion of Medicine Knoll Creek Siphon).

	<u>Fee</u>	<u>Permanent Easement</u>	<u>Temporary Easement</u>
Reach 2A	386.55	31.67	163.70
Reach 2B	57.56	--	--

b. What is total number of acres that have been acquired by purchase or condemnation for 2A? 2B?

None.

c. In miles, what is the total length of 2A? 2B?

Reach 2A - 9.5 miles; Reach 2B - 1.6 miles.

d. In miles, what is the total number of miles that have been condemned or purchased for 2A? 2B?

None.

e. What is total projected price for Pierre Canal, Reach 2A? 2B?

Reach 2A - approximately \$6,000,000.

Reach 2B - approximately \$1,500,000.

f. What percentage of the necessary planning, designing or other preconstruction work has been completed as of November 5, 1977?

Planning and design data - about 100%.

Specifications design - about 22%.

Cost of the Medicine Knoll Creek Siphon was not requested but in addition to Reach 1 and 2 of the Pierre Canal, the total cost of the Siphon is estimated at approximately \$7,120,000.

4. Regarding only the Blunt Dam and Reservoir:

a. What percentage of the actual physical construction work has been completed as of November 5, 1977?

Zero

b. What percentage of the planning, designing, and preconstruction work has been carried out?

Planning and design data - about 80%.
Specifications design - zero.

c. What is the total take area for these features?

The Oahe Unit as authorized requires 30,830 acres for Blunt Dam and Reservoir. Fish and wildlife areas include another 11,325 acres.

d. What is the total number of acres actually acquired through November 5, 1977?

17,878 acres, including fish and wildlife mitigation and enhancement lands.

e. Has the land needed for the Blunt Dam been acquired?

About 50% of the land needed for Blunt Dam has been acquired.

f. What will be the height, width, and maximum/minimum thickness of the dam?

Final specifications designs are incomplete.

g. What will be the total cost of the Blunt Dam and Reservoir?

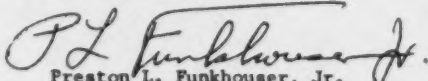
Approximately \$24,540,000.

h. What is the total amount obligated or expended to date?

Approximately \$4,191,000.

If you have further questions, please contact us.

Sincerely yours,


Preston L. Funkhouser, Jr.
Project Manager

September 11, 1981

RE: Oahe Irrigation Project

We wish to state that we are for de-authorization of the Oahe Irrigation Project. If this included the selling of the land back to the landowners we would be willing to buy ours back.

We would appreciate hearing anything that comes up on this matter.

Mr. & Mrs. Larry E. Wagoner

Mr. & Mrs. Larry E. Wagoner
RR #2
Blunt, SD 57522

AC-605 / 224-0396

December 8, 1980

To the board of Water and Natural resources

We the following owners and tenants which have had land acquired for the Pierre Canal wish to object to any other use of this facility.

There has been 22 miles acquired by the Interior Dept. of which 1/3 of the owners were condemned. A good share of the rest didn't want to go through the hassle with the Government. About 1/3 of the actual construction has been done with another 1/3 that has minor construction and about 1/3 that has no construction at all.

Now we have several groups of people looking at these partially completed facilities. These people are primarily from non-ag interests. We see their plans of an open delivery system as having the same objections as the original Oahe Project which the people have unanimously rejected in the past. We feel these plans would only shift and continue the controversy and hinder any water development in the near future.

We want water development the same as anyone else but first you have to eliminate public objections such as open delivery systems that sever peoples livelihood.

Any future water plans should be made from the people who own the land themselves not Government agencies and special interests.

We also feel that as these lands were taken against our better judgment and they were taken for the original Oahe Project that the Interior should offer these parcels back to the original owners on a parcel by parcel basis.

We would therefore suggest any future water development plans have land operator input and be done with a closed delivery system.

NAME	ADDRESS	PARCEL #	OWNER/TENANT
Royal Range	Blunt, S.D.	PC 30	Owner
East M. Co. #1	Rt 3 Pierre, S.D.	PC 14	Owner
Miller Co. #1	Rt 3 Pierre, S.D.	PC 17	Owner
Clayton #1	Rt 3 Pierre, S.D.	PC 20	Tenant
James Roth	Rt 3 Pierre	PC 27A	Tenant
Joe P. Johnson	Rt 3 Pierre, S.D.	PC 17	Owner
Long John L	Rt 3 Pierre, S.D.	PC 18	Tenant
John G. Thorne	Rt 3 Pierre, S.D.	PC 3	Owner
Roger & Lois Bais	2205 Opheim, S.D.	PC 22	Tenant
Lyle W. Leroy	2104 6th St Pierre, S.D.	PC 21	Owner
Bernard Lushy	Blunt, S.D.	PC 14	Owner
James M. M. M.	Blunt, S.D.	PC 14	Owner
Long E. Wagoner	RR 12 Blunt, S.D.	PC 24	Owner

Lake Andes-Wagner Irrigation District

Wagner, South Dakota 57380

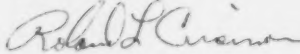
September 9, 1981

Ms. Barbara Driscoll
Field Representative of Senator Abdnor
Federal Building
Pierre and Sioux Avenue
Pierre, South Dakota 57501

Dear Ms. Driscoll:

Will you please give the attached letter and maps to Senator Abdnor, so that he can give them to Senator Frank Markowski for the field hearings on September 12, 1981, in Pierre.

Sincerely,



Roland Crisman
Chairman

Attachments

Lake Andes-Wagner Irrigation District

Wagner, South Dakota 57380

September 9, 1981

The Honorable Frank Murkowski
Chairman of Senate Sub-Committee
Water and Power
Senate Office Building
Washington, D.C. 20510

Dear Senator Murkowski:

We wish to thank you for holding field hearings on Senate Bill No. 1553 in Pierre, South Dakota, to listen to our Water Development proposals.

We have had an opportunity to review Senate Bill 1553 and are pleased with it, and are hopeful of your committee's full support. In Section 2(4) it proposes to develop water projects proposed by the Governor of South Dakota. We wish to state in the records that the "Lake Andes-Wagner Irrigation Project" was included in his plan, as outlined in Huron, South Dakota, on August 13, 1981.

Section 4 of Bill 1553 will grant the use of Missouri River Basin Power. This is very important to all the irrigation projects in South Dakota and should remain as such. After all, we were part of the Flood Control Act of 1944 scheduled to receive such power.

There just isn't any question that we have all the information needed to start the final design and construction of a project. For the committee's information, we have made a private study and the landowners in our District have spent over \$1 million to date. The South Dakota Department of Water and Natural Resources has five bound books concerning the results. Plus, the Bureau of Reclamation has made partial studies on parts of the proposed project.

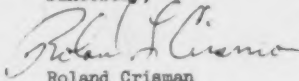
Passage of this bill and all the information we have on hand for the Lake Andes-Wagner Irrigation Project could bring about early construction. We have needed this type of project for many years and our project could prove the benefits of irrigation to the State of South Dakota and the nation as a whole.

Enclosed are two maps. One, the Project Features Map of the Lake Andes-Wagner Irrigation District and one of Governor Janklow's Proposed Water Development Projects for the State of South Dakota.

Realize that space and time are important and that we find it impossible to explain all the factors concerning our project or other water projects as proposed by the Governor of South Dakota. However, our able and excellent Senator James Abdnor is fully aware of us and we are certain that he will assist in any manner needed. We need to develop Water in South Dakota, as this is perhaps the only way that we can raise our annual income and the natural resources are right at our front door.

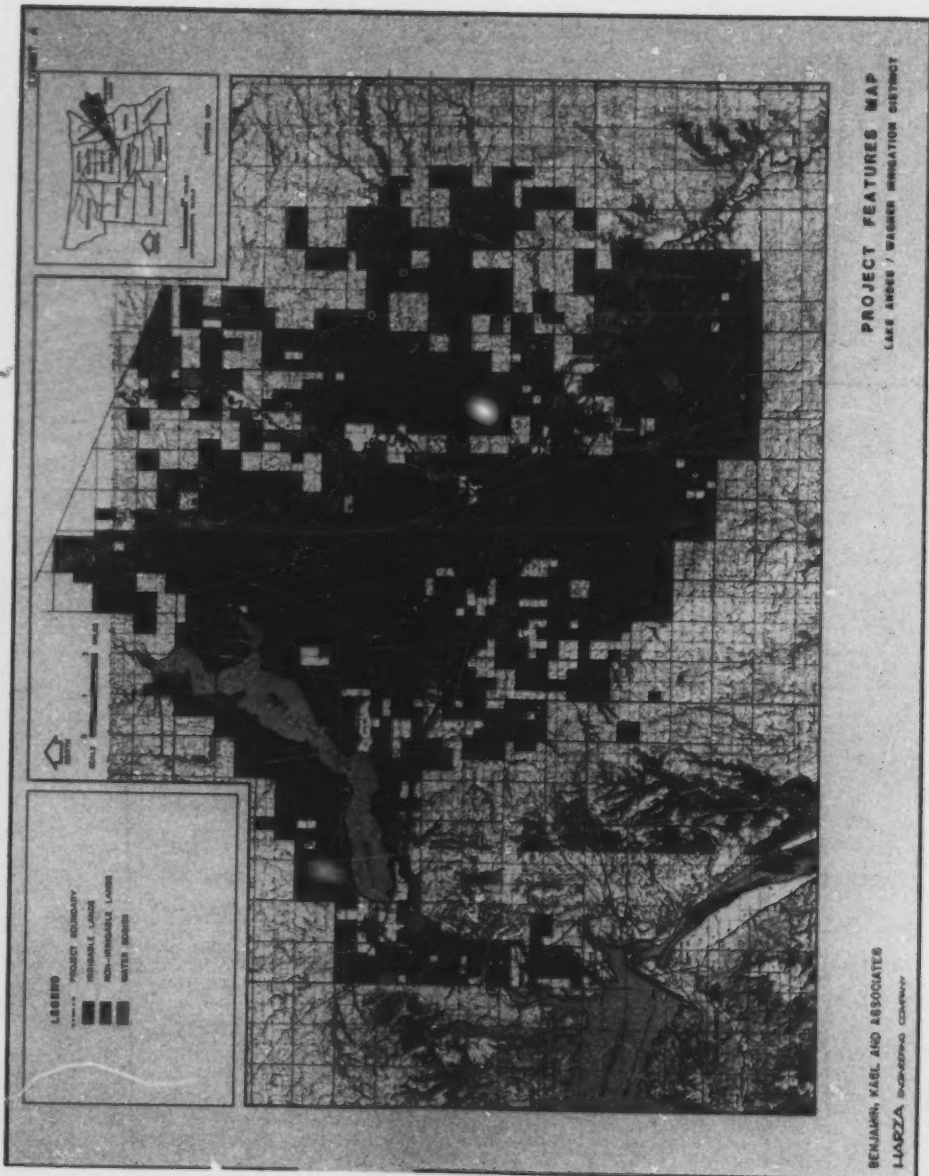
Again, Thanks for this opportunity and your time.

Sincerely,

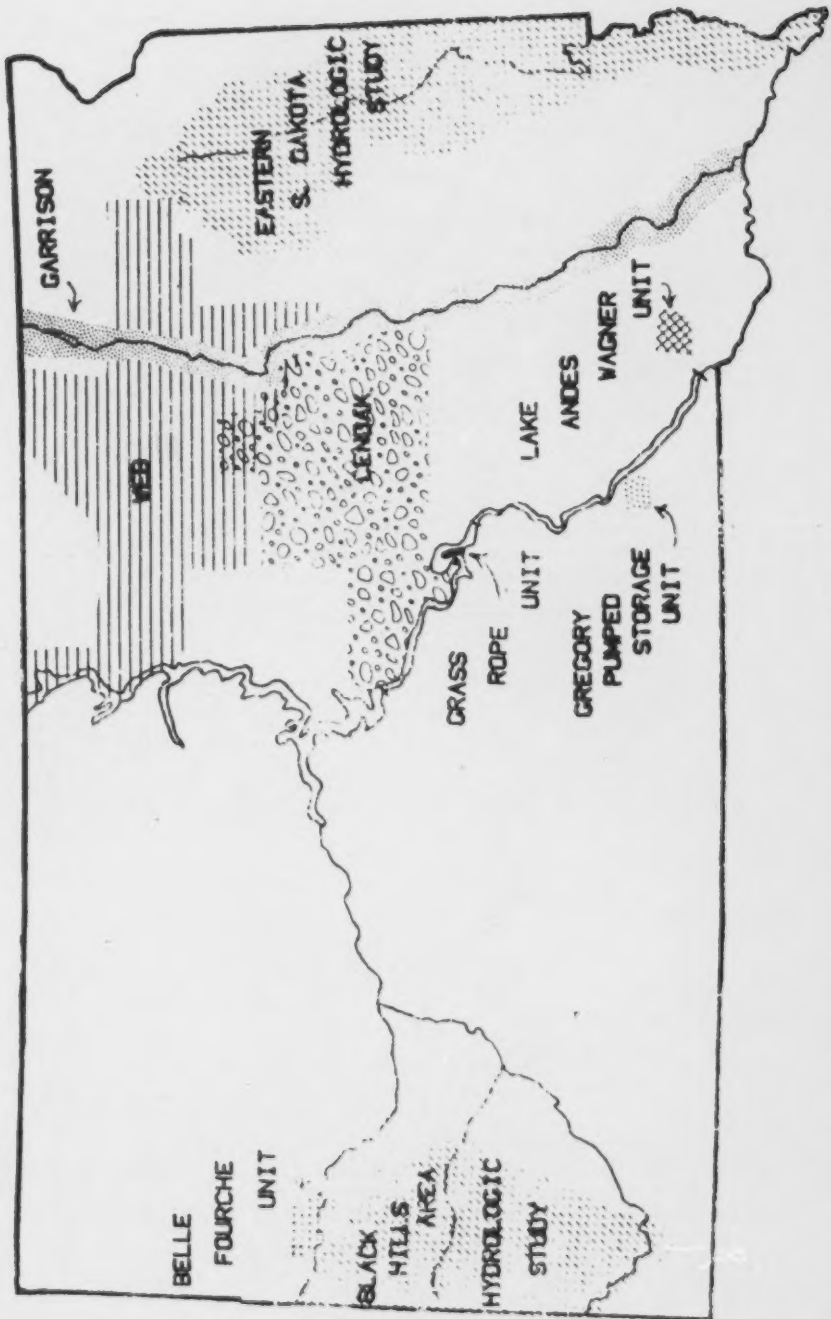
A handwritten signature in cursive script, appearing to read "Roland Crisman".

Roland Crisman
Chairman

Enclosure (2)



PROPOSED WATER DEVELOPMENT PROJECTS





North Central



RESOURCE CONSERVATION & DEVELOPMENT PROJECT

P. O. Box 550, Pierre, SD 57501

September 10, 1981

The Honorable Frank Murkowski
Chairman, Subcommittee on Water and Power
Washington, DC 20510

Dear Senator Murkowski:

The North Central RC&D Area covers the counties of Campbell, Hughes, Hyde, Potter, Sully, and Walworth in South Dakota. The RC&D Council is composed of representatives from the Oahe Conservancy Sub-district, County Commissioners, City Commissioners, and Soil Conservation Districts in these counties.

The North Central RC&D Council supports modifications of the Oahe Authorization that will provide a water delivery system for irrigation, industrial, municipal, and rural water development in South Dakota.

During each period, 1960 to 1970 and 1970 to 1980, all North Central RC&D counties except Hughes lost anywhere from 10% to 20% of its population. The number of farms declined. Livestock production and numbers went down due mainly to drought. Five out of the last ten years were considered drought and during the other five, we were only two weeks away from a drought.

Water development is the key for stabilizing our population and agricultural economy not only of the North Central RC&D Area but the whole State.

There are over 600,000 acres of irrigable land in the six RC&D counties within twelve miles of the reservoirs. Over 50% of the farms do not have an adequate supply of water or the water is of poor quality.

The North Central RC&D Council supports the CENDAK proposal for getting water delivered to eastern South Dakota for irrigation and domestic uses.

South Dakota has provided some 550,000 acres for reservoirs on the Missouri River to provide flood protection to downstream residents, additional water to support barge traffic downstream, and produce 1,483,000 KW of electricity per year with most of that going out of state to be used by other people.

Under the Pick-Sloan Plan, South Dakota was to receive 590 million dollars to assist in building a water delivery system to irrigate some 500,000 acres, domestic water for 100,000 people, and 99.2 million KW of electricity at two-tenths of a cent (2 mills) to deliver water from the Oahe Dam to the James River area.

In the mean time, the sale of electricity from the six dams on the Missouri River has paid off their construction cost and South Dakota is still waiting. The delay is not totally the fault of the Federal Government. Much of the fault lies with the people of South Dakota in not being able to agree on what they want.

If as much energy had been spent on trying to modify the Oahe Contract to make it an acceptable project as was spent trying to get it deauthorized, we would not be in the dilemma we are in today.

Therefore, the North Central RC&D Council recommends that every effort be made to renegotiate the Oahe Master Contract and incorporate the two mil power, one million acre feet of water and 590 million dollars into a water delivery system that will provide for irrigation, industrial, municipal and domestic water development in South Dakota.

Sincerely,

North Central RC&D Council

Denny B. Barnes, Chairman

Howard Geers
Howard Geers, Secretary



Custer County Conservation District

Custer, South Dakota 57730

Sept. 4, 1981

Senator James Abdnor
308 Federal Bldg.
Pierre, SD 57501

Dear Senator Abdnor:

Enclosed is our written testimony (5 copies) concerning the Stockade Lake Watershed Improvement Project, which we are submitting in lieu of oral testimony for the September 12th public hearing being conducted by the Senate Water and Power Sub-Committee on Oahe settlement/trade legislation.

We wish to support legislation which provides for the cancellation of the original contracts on the Oahe project and substitution of other projects in the State Water Plan in comparable amount.

Though the Stockade Lake project is small compared to most of the other projects included in the State Water Plan we believe the cost-benefit ratio of this project will compare very favorably with that of the other projects. Favorable consideration by the congressional delegation and the Sub-Committee will be greatly appreciated.

The Phase I feasibility study for the Stockade Lake project is being prepared by the Custer County Conservation District as local sponsors under contract with the SD Dept. of Water & Natural Resources with cost-sharing being provided under a Section 206 water quality planning grant through the EPA. A copy of the report of this study will be available by October 1, 1981 if further detailed information is needed. We have had considerable public involvement in this project during the past two years and there is strong local support to implement corrective measures for this project.

It is our understanding that your staff will distribute copies of our testimony as needed.

Sincerely,

Harry Evans
Harry Evans, Chrm.
Custer County Cons. Dist.

Encl AEX

STOCKADE LAKE WATERSHED IMPROVEMENT PROJECT

- I INTRODUCTION
- II CURRENT SITUATION
- III CAUSES
- IV ADVERSE EFFECTS
- V RECOMMENDED COURSE OF ACTION
- VI PRELIMINARY COST ESTIMATE

STOCKADE LAKE WATERSHED IMPROVEMENT PROJECTI INTRODUCTION

Stockade Lake is located on the western edge of Custer State Park four miles east of Custer, S.D. Until the early 1970's this lake was used very extensively by many residents and tourists as a recreation area for swimming, fishing, boating, water-skiing, picnicking and camping. Through the years though, since construction of the dam in the mid-1930's, the water quality in the lake has progressively deteriorated to the point where the lake now is unsuitable for these recreational pursuits.

The most significant problems in Stockade Lake are the very high nutrient levels and the consequent heavy algae blooms which are evidence of the lake's highly eutrophic or over-productive state. This results in an unsightly green color and foul smells during the summer and excessive die-off of fish (even suckers and bullheads as well as trout) annually due to the depletion of dissolved oxygen.

The end result is that this once beautiful lake is now unfit for recreational activities and the drastic reduction in use of the lake by tourists and recreationists has a serious adverse impact on the local and state economy, also there is a potential health hazard along the tributary streams and at the lake from inadequately treated domestic sewage within the watershed.

Considerable public involvement has been undertaken on this project beginning with the first public hearing on July 24, 1979. More than 1,000 copies of a brochure (Appendix A) were distributed in December, 1980 to further inform the local citizens. Recent public meetings and responses indicate strong support for implementing the project.

II CURRENT SITUATIONA. Area Description

Stockade Lake is located in Custer County, South Dakota, four miles east of Custer, SD. The lake and its watershed comprise 49,915 acres or 78.0 square miles and is situated in the south-central portion of the black Hills. The lake has a surface area of 131 acres, an average depth of 19 feet, a maximum depth of 42 feet and a volume 2492

II continued

acre feet.

Approximately 60 percent of the watershed above Stockade Lake is public timberland administered by the U.S. Forest Service. The remaining land is privately owned and is used for livestock grazing, hay crops or residential and commercial developments. The lake is located within the Custer State Park boundaries.

The City of Custer (population 1708) is located along French Creek about four miles upstream of Stockade Lake. Many permanent and summer homes are located within the watershed. Populations are considerably swelled during the summer by the influx of tourists into the area. The drainage area above Stockade Lake is one of the most extensively developed areas in the Black Hills. See appendix B for location map.

B. Condition of Stockade Lake

Recent sediment surveys and water quality sampling indicate that activities within the watershed are contributing sediment and plant nutrients (nitrogen and phosphorous) to Stockade Lake at excessively high rates. Stockade Lake presently is in a eutropic to hyper-eutrophic condition. Interpretations of the water quality sampling program by the S.D. Department of Water and Natural Resources indicate that nutrient loadings in Stockade Lake exceed maximum tolerable loadings by a factor of 45 for phosphorus and 6 for nitrogen. Tests for fecal coliform bacteria indicate gross contamination of French Creek downstream of the City of Custer.

A study of the oxygen profile of Stockade Lake in 1979 indicates a severe oxygen depletion zone below 10' depth in late summer.

The sediment surveys show that 284,000 cubic yards of silt and organic matter have been deposited in the lake which averages nearly 18 cubic yards for every day since the lake was developed.

II continued

C. Public Use of Stockade Lake

Due to the severe growth of algae in the lake from late June until fall water-related recreation at the lake presently amounts to but a small fraction of the amount twenty years ago. Use of the lake for swimming and fishing is virtually non-existent now except for a very minor amount of fishing during the winter and spring. A minor amount of boating and water-skiing occurs primarily during early summer before the buildup of algae in the lake.

III CAUSES

A. Nutrient Pollution:

The results of water sampling and testing of French Creek during 1979 and 1980 indicate that the discharge from the Custer City sanitary sewer system has contributed significant nutrients into French Creek and Stockade Lake. The basic problem appears to be overloading of the treatment plant primarily during the summer months which apparently is largely due to infiltration of ground water into the collector and outfall lines and to the increase in volume of domestic wastes caused by the influx of tourists during the summer season. The volume of liquids is also increased by the discharge from some roof drains which are connected to the sanitary sewer system rather than to a storm sewer.

During late summer when surface runoff is minimal the discharge from the Waste Water Treatment Plant represents a significant portion of the total inflow into Stockade Lake during this dry season.

A Phase I diagnostic-feasibility study is presently being conducted by the City of Custer to analyze and evaluate this problem.

Analysis of infrared aerial photography obtained in May, 1980, by the Environmental Protection Agency indicated that there are 62 septic tank systems within the Stockade Lake watershed which were discernible on the photography and were reported as "probable surface failing systems" which consist of privately owned

III continued

individual septic tank systems.

Additional nutrient pollution results from livestock grazing along the tributary streams and from the re-cycling of nutrients within the lake due to decomposition of water weeds and algae in the fall and the secretions of the marine animals within the lake.

B. Sediment Pollution

The primary activities which are contributing sediment to the tributary creeks include urban runoff, disturbance of stream channels during placer mining operations or channel changes, runoff from gravel or dirt roads, landfill or mine spoil encroachments to streams, land developments and livestock holding facilities adjacent to streams.

IV ADVERSE EFFECTS

Pollution within the watershed has a very significant adverse effect on all water-related activities which include swimming, boating, water-skiing and fishing as well as picnicking and camping near the lake. A reduction in the quantity and quality of these recreational activities in turn has a serious negative economic impact on the local and state economy where tourism and recreation constitute a principal industry. (See appendix C for copy of news article which is an example of adverse impacts to local businesses)

V. RECOMMENDED COURSE OF ACTION

Diagnostic feasibility studies are presently being conducted concerning the pollution of Stockade Lake and relating to the improvement of the Custer wastewater collection system and treatment plant. The preliminary findings of these studies, both of which are scheduled for completion by Oct. 1, 1981, indicate that in order to reduce the pollution occurring in the lake and tributary stream it will be necessary to:

- (a) Eliminate or reduce nutrients being discharged into French Creek from the Custer Sanitary Sewer System and the wastewater treatment plant.

V continued

- (b) Identify and correct malfunctioning septic tank systems.
- (c) Provide corrective measures within the watershed to reduce the amount of sediment and nutrients being deposited into the lake.
- (d) Prevent the recycling of nutrients within Stockade Lake. The main way of accomplishing this is the removal of the sediments from the lake bottom**

Specific treatments being recommended include the following:

(a) Treatments of Sewage:

- (1) Reconstruct the City outfall sewer system and provide advanced treatment at the wastewater treatment plant. Utilize the effluent from the plant in a "wetlands" system and/or for irrigation of hay meadows. (See appendix D for description of the "wetlands" system)
- (2) Reconstruct, replace or use alternate systems of disposal for those septic tank systems which are contributing nutrients or bacteria to tributary streams.

(b) Treatments within watershed:

- (1) Erosion-proof and restore roads and recreation facilities located adjacent to Stockade Lake and French Creek by providing walkways, stairs, all-weather surfacing, slope protection, and/or revegetation.
- (2) Construct sediment basins in the major tributary streams with highest priority being given to those located downstream of the City of Custer and those having the largest tributary watershed areas. Also construction of a basin within the lake near the French Creek inlet should be considered.
- (3) Provide streambank protection where active erosion is occurring along the tributary streams.
- (4) Provide buffer zones, dikes, terraces and/or revegetation at sites contributing sediments and nutrients to the streams, such as mine spoil dumps, land developments, snow disposal areas, mill sites, landfills, barnyards, corrals and unpaved streets.

**Secondary benefits may be derived by utilizing the nutrient laden sediments for fertilizer. (See appendix E for laboratory test results of the sediment)

V continued

- (5) Reduce concentrations of livestock along the tributary streams through greater dispersal by alternate watering and salting stations and/or rotation grazing systems.

- (c) In-lake treatments

- (1) Continue search and evaluation of research concerning bio-manipulation techniques with the objective of having available the most up-to-date information and utilizing all available limnological and biological expertise so that final decision can be made (prior to draining the lake) as to the best techniques to implement, which also meet the desires of the local citizenry.
- (2) Drain Stockade Lake and remove sediments. Refill lake and re-stock with optimum numbers and species of fish as determined in item (1), with the objective of minimizing populations of these species which feed on zooplankton. Search for markets for use of the sediment as fertilizer.
- (3) Monitor water quality and animal and plant life populations to determine if a proper balance is being maintained.

VI PRELIMINARY COST ESTIMATE

Preliminary estimates indicate that costs for the restoration of Stockade Lake and corrective treatments within the watershed (excluding work on the Custer wastewater system and treatment plant) will be in the range of \$2,500,000 to \$3,000,000. These estimates are very tentative and are subject to revision following more detailed surveys, preparation of final restoration plans and concurrence of individual landowners where treatments are proposed.

A LAKE IS DYING!

(Appendix A)



STOCKADE LAKE
WATERSHED IMPROVEMENT PROJECT

Sponsored By
CUSTER COUNTY SOIL CONSERVATION DISTRICT

INTRODUCTION

STOCKADE LAKE is located on the western edge of Custer State Park. Until the early 1970's this lake was used extensively by many residents and tourists as a recreational area. This is still true, to an extent people still fish the lake, in spring and early summer. The campgrounds around the lake are utilized too, but few people swim or fish there after mid-summer.

SOMETHING HAS HAPPENED TO STOCKADE LAKE and the area around it. The lake has quite an odor during the warmer summer season, the lakes color turns green, and dead fish are occasionally found around the edge.

In July, 1980, efforts were initiated by the Custer County Soil Conservation District to find solutions and correct the problems of Stockade Lake.

WITH YOUR HELP AND SUPPORT this declining trend can be REVERSED and the Lake RESTORED!

THE PROBLEM

There presently exists excessive pollution and sedimentation (in the form of phosphates, nitrates and silt) in Stockade Lake and the tributary creeks.

THIS POLLUTION IS PRIMARILY CAUSED BY:

Domestic and municipal sewage wastes.

Runoff from roads, streets, highways, campgrounds, and land developments and other soil disturbing activities adjacent to water courses.

Other pollutants such as litter, oil from streets and roads, eroded soil, animal wastes and many other sources.

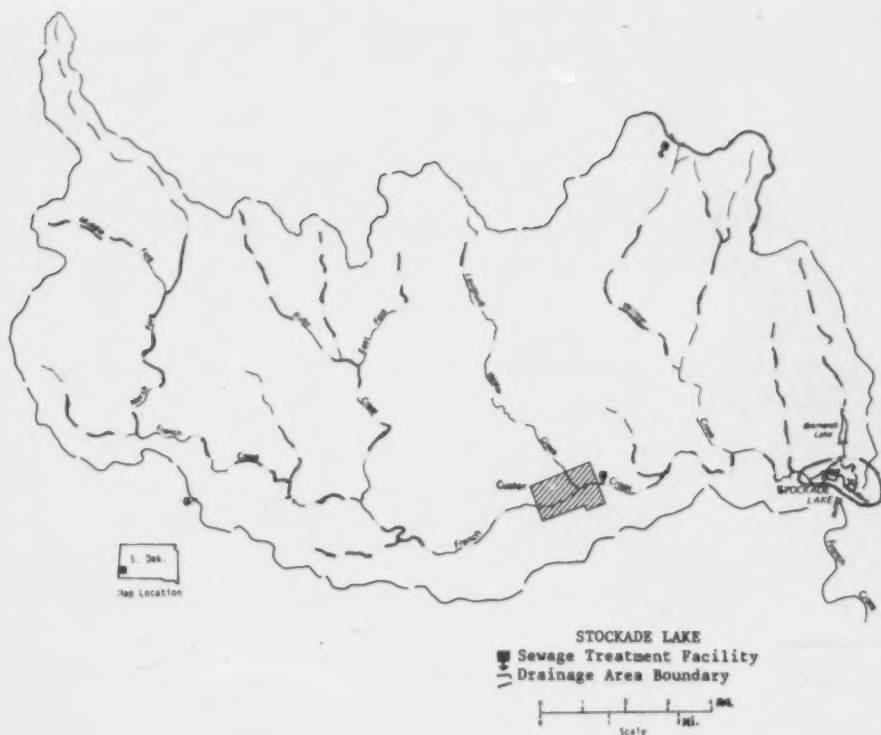
THE RESULTS OF THIS POLLUTION ARE:

Serious deterioration of water quality.

Adverse effects to water related recreation such as swimming, boating and water skiing due to objectionable odors and excessive growth of algae and aquatic vegetation.

Deterioration of trout habitat.

Reduction of the local recreation oriented revenues.



AREA DESCRIPTION

STOCKADE LAKE is a 131-acre lake with an average depth of 19 feet and a maximum depth of 42 feet. The volume of water in the lake is 2,492 acre feet.

The watershed area includes French Creek and its tributaries, ~~shown above~~, in a 78 square-mile area covering nearly 50,000 acres.

(See page for map of area)

PLAN OF ACTION

PHASE I -

IDENTIFY and quantify the various sources of nutrient POLLUTION and sedimentation.

ANALYZE AND EVALUATE alternative CORRECTIVE MEASURES for social, environmental and economic feasibility.

RECOMMEND most feasible and cost-effective COURSE OF ACTION.

EXPLORE possible FUNDING sources for implementation.

PHASE II -

PREPARATION of the detailed PLANS and specifications for the selected corrective measures.

IMPLEMENTATION of these restoration measures.

PHASE III -

MONITOR recreational USE and economic benefits on the local area.

MONITOR RESTORATION of area resources.

HOW CAN WE HELP?

AS AN INDIVIDUAL:

Keep informed of the environmental issues and problems concerning Stockade Lake and its watershed.

Inspect and correct faulty septic tank systems.

Do not over-fertilize lawns, gardens or croplands.

Properly dispose of litter, garbage and other wastes. Do not dump soil, debris or agricultural wastes adjacent to creeks or within the flood plain.

Use phosphate-free detergents for washing clothes and other cleaning projects. Limit dishwasher detergents to those with less than 8.8% phosphates.

Minimize soil disturbing activities and livestock concentrations adjacent to lakes and streams.

AS A COMMUNITY:

Support the efforts of local agencies and the Citizens Advisory Committee which are already working out the problems.

GOALS FOR PROJECT

The water quality objectives are dictated by the necessity to protect the natural water courses and lakes from further pollution and contamination by human activities. The primary goal of the South Dakota Statewide "208" Water Quality Management Plan is to improve and maintain water quality for the maximum beneficial uses by present and future generations of South Dakotans. The objectives to achieve this goal are as follows:

To eliminate or reduce underground seepage from septic tank systems into the lakes and streams within the watershed.

To prevent contamination of underground water supplies by infiltration of waste-water effluents.

To eliminate or reduce above ground accumulations of unabsorbed effluents, plant nutrients or other pollutants which ultimately are washed into the streams and lakes.

To eliminate or reduce erosion caused by human activities which are contributing sediments to the streams and lakes.

To restore and improve the water quality of Stockade Lake by elimination or reduction of pollutants, including sediments, presently in the lake.

To increase recreational opportunities and economic benefits to the area.

WE ENCOURAGE YOUR COMMENTS AND IDEAS WHICH

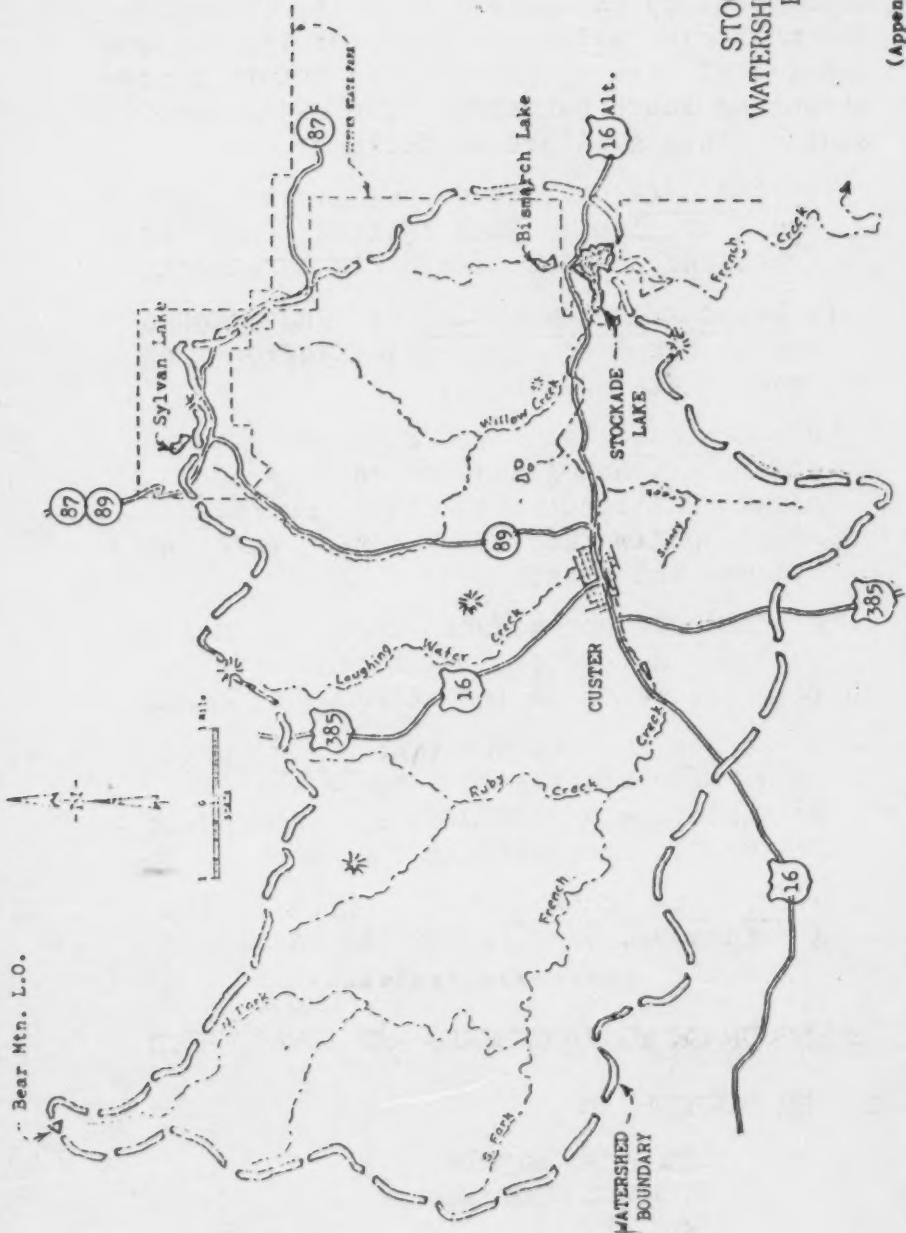
CAN BE DIRECTED TO:

Mr. Arvo Kujala
Project Coordinator
Box 31
Custer, South Dakota 57730

TELEPHONE: 673-4429

STOCKADE LAKE WATERSHED IMPROVEMENT PROJECT

(Appendix B)



(Appendix C)

CUSTER CHRONICLE, PAGE 1

Dead fish cause added problems for motel owner

6/11/81



The owner of the Calamity Peak Motel has met with discouraging sights and scents the past few weeks. As the influx of tourists is beginning so are the unfavorable consequences of fish dying in French Creek which runs directly through his property.

When Gary Tschetter bought the property last year, he knew there was a pollution problem in French Creek. He was temporarily soothed by the previous owners when they told him the new sewage treatment plant was supposed to help the situation.

But now, not 20 yards from the cabins, hundreds of fish are dying weekly and they are literally piling up. Tschetter says he has taken several wheelbarrow loads out so far

and is ready to remove some more. The dead fish become trapped by a temporary dam of branches and stones put there by the former motel owners after a beaver dam was washed away by flood waters years ago.

Though the problem in French Creek has been brewing for years, Tschetter says the situation on his property is now at its worst. After the rains dumped water on Custer several weeks ago, the repulsive condition began.

Tschetter's immediate plans are to have part of the dam removed, and at this time he says he is not sure whether it will help or worsen the situation.

As of yet, Tschetter has not made contact with any state or federal agencies, such as the Environmental Protection Agency, Department of Natural Resources or Game, Fish and Parks. But he has plans to do so. Also, he plans on meeting with the Stockade Lake Restoration Committee saying, "I'll be at the next meeting." As a new member of the community, he said, "I plan on being involved."

Whatever the cause of the French Creek problem, Tschetter wants it to be alleviated soon. He is aware that the solution cannot be accomplished overnight.

Tschetter said the problem is beyond what a local government can financially handle and that is why he is seeking help from the state and federal governments.

For now, Gary Tschetter will be shoveling dead fish from the creek and giving explanations to his customers who, he said, immediately notice the sight and smell.

Ducks Like Us!

or ... Creating Wetlands with Reclaimed Water

by Francesca Demgen

Despite the fact that the pond-marsh at Mt. View Sanitary District, in Martinez, is surrounded by industry and interstate 680, the ducks seem to be quite comfortable here.

On any given day during the winter one can see over a hundred ducks of different kinds: pintails, mallards, ruddy ducks, cinnamon teal, coots, etc.

In November, 1974, a three-year pilot project was begun to see whether secondary-treated effluent would be suitable for sustaining marsh plants and animals.

Mt. View is a secondary treatment plant using biofiltration, and serving about 12 000 people in Contra Costa County.

The District wanted to find a use for its reclaimed water, instead of merely piping it to the bay. The result has been the creation of a 3½-hectare (9-acre) marsh-pond system, which empties into Peyton Slough en route to Suisun Bay.

Wildlife Influx

Multiple habitat types have been formed: pond-like open water, marsh, and peripheral vegetation forming a low-brush, land habitat. Over 34 plant species, including emergents, field annuals, shrubs and trees have appeared.

The combination of open water and vegetation-covered areas provides a habitat for raccoons, muskrats, and aquatic insects, as well as a host of marsh birds

and ducks. Eighty-two species of birds have been seen using the area.

Shore birds and ducks use it as a resting point during migration. Last year a number of ducks remained to nest in the marshes, producing approximately 50 offspring. There are other waterfowl, wading birds, and field birds.

The quality of the water allows it to support more than 22 species of aquatic invertebrates. Nearly all can be found, in each stage of their life cycle, in or near the water. During optimum production 4.8 g/s (3.8 lbs./hr.) of aquatic invertebrates, mostly *Daphnia* sp., passed out of one marsh area.

Pocket gophers, skunks, snakes, western pond turtles, jackrabbits, and bullfrogs all live in or around the wetlands.

From fields with only seasonal vegetation and little animal and bird life, there has arisen a balanced aquatic ecosystem using the reclaimed wastewater from a semirural area. This treated wastewater is used one more time before being released to Suisun Bay.

The people in the area also benefit from the newly created wetlands: bird-watchers, nature photographers, school groups and researchers all take advantage of the marshes. Between January and November 1977, visitors spent 525 person-hours at the site.

A Mutual Favor

Peyton Slough benefits from the surrounding life and receives aquatic invertebrates from the marshes.

On the other side of the coin, the marsh system is effective in providing natural dechlorination of the effluent, and seasonally reduces nutrient levels

(nitrogen and phosphorus), biochemical oxygen demand and suspended solids.

In October, 1976, Mt. View Sanitary District hired this writer as a full-time aquatic biologist, to carry out an extensive monitoring program to measure physical, chemical, and biological conditions found in the marshes and slough.

SS Broken Down; No Algae

An average flow of 27 L/s (0.6 Mgal/d) is treated in the plant and passed on to the marsh system. The flow is split nearly in half prior to entering the two marsh plots, 2 and 1½ hectares (5.2 and 3.1 acres) respectively.

Marsh A, the 2-hectare plot (upper area in photo), is split into two sections, a smaller section with emergent vegetation and a larger open-water area. Marsh B, the 1½-hectare plot (lower triangular area) is mixed open water and emergent vegetation.

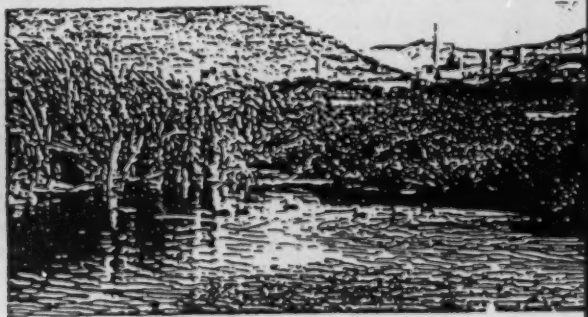
Weekly analyses for BOD and suspended solids were performed at the discharge weirs of both plots. Marsh B reduces the BOD level in the plant effluent approximately 90% of the time. Marsh A reduces the BOD level during the winters but not in the summer.

The suspended solids were reduced less often. However, whereas the suspended solids in the plant effluent consist of partially decomposed waste and are not in a form readily available for use, the nature of the suspended solids discharged from the marshes is entirely different: a large portion of these is in the form of usable constituents of the food chain.

Biweekly analysis was performed at 11 stations in the marshes and the slough.



AUTHOR Fran Demgen takes a dissolved oxygen reading in the marsh pond.





CUTE NEST?—No, it's a COOT nest, made of sticks.

into which they discharge. Dissolved oxygen, pH, depth, temperature, substrate and aquatic invertebrates were monitored at each station. Productivity was monitored at one point in each marsh on a weekly basis.

There have been no blue green algae, algal mats, or filamentous algae in either marsh. Algal growth is cyclical.

The pond depth varies from 0.3 to 1 m (1 to 3 feet). This shallow depth, and frequent wind mixing, keep the water evenly oxygenated. The dissolved-oxygen levels vary from supersaturated to less than 2 mg/L.

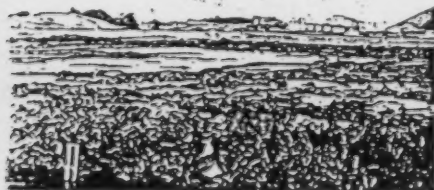
The pH values vary from 6.9 to 8.8, the upper values being associated with high algal production rates. There is some accumulation of solids on the substrate. The marshes do not freeze in winter.

Ecolverage

Wetlands creation using reclaimed wastewater is cost-effective and not energy-intensive. It makes use of a freshwater source in an area, the San Francisco Bay region, where fresh water is at a minimum.

Even though the district has a small plant, its efforts at reclaiming marshlands in the San Francisco Bay area are important because of the obliteration of so much of the valuable marshlands in the past.

In addition, the information gathered here may be used as background for other projects in the future; we are currently planning expansion to four more hectares of our own.

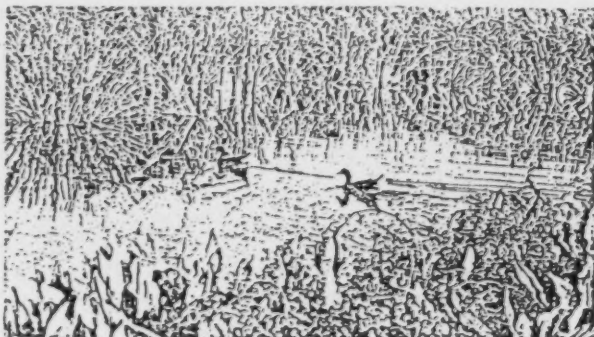


HANGING SCENE—Early in the project the emergent vegetation was pink and brown burners. Larger plants moved in later.



A NEW ECO-TWIST—Operators Dave Soares and Dave Contreras (left), engineer Warren Nute (who dreamed up the marsh-pond project) and Ed Burton survey the newly installed "Ecofloats"—small objects strung together across part of the pond, to provide additional habitat for aquatic organisms.

Burton was the designer of the Ecofloats.



CREATIVITY—Two hybrid ducks, born in the marshes.



IS THERE LIFE ON MARSH?—Certainly, as evidenced by this photo of "emergent vegetation" (plants rooted in shallow water, with most of the vegetative growth above water), where birds and animals can find food and refuge.

The aquatic bird in the photo is a gallinule—a member of the rail family which has unfeathered feet and a shield-shaped marking on its front.

Appendix E

STOCKADE LAKE SEDIMENT TESTS, Feb. 25, 1981

ELEMENT	SAMPLE NO.							
	1a	1b	2a	2b	3a	3b	4a	4b
Ammonia as N	210	520	230	200	310	290	47	65
TKN as N	270,000	290,000	270,000	150,000	250,000	180,000	86,000	74,000
Ortho PO ₄ as P	20	8.0	11	4.6	18	12	2.8	4.4
Total PO ₄ as P	2,600	6,700	8,200	7,000	9,000	21,000	2,500	3,500
NO ₃ as N	23	95	34	16	5.6	16	11	12
NO ₂ as N	0.6	0.6	0.4	0.4	0.6	0.5	0.2	0.2

NOTES:

Type of sample: Dredge

Results based on dry weight and expressed in mg/Kg.

- The test results above indicate that the nitrates (TKN as N) range from about 7% in the French Creek inlet to about 28% near the dam and that Phosphate content (Total PO₄ as P) ranges from about 0.3% to 2% by dry weight.

9/6/1981

Senator Frank Murkowski, Chairman
Senate Subcommittee on Energy and Water
Dirksen Senate Office Bldg.
Washington, D.C. 20510

Mr. Chairman and members of the committee:

Since it is impossible for me to attend the Congressional hearings on the Oahe Project Sept. 12, 1981, I wish to submit the following written testimony to be entered into the official hearing record. Thank you.

My name is Ramona Kirkeby. My husband and I own and operate a diversified farming enterprise in Clark County with the help of our son. I am also a member and Chairperson of the Clark County Board of Commission.

I write in support of the Abdnor legislation, Senate Bill 1553, as I feel that it is time for unified support of S. D. water development. Ever since the Oahe Project construction was discontinued, there has been continued negative and opposing expressions from the various segments in the area of water development in S. D. This has prevented any positive attempt to get development of the Oahe waters moving forward. Governor Janklow has recently outlined a water development plan in which he has named several proposed projects, and it is my hope that with the help of Congress to pass SB 1553 and start we may eventually realize authorization and funding for some of the projects.

I am especially interested in the WEB funding because I still have hopes that Clark County might be a part of that. I realize that extensive work has been done on the proposed Clark County Rural Water Project, but I question the wisdom of spending millions to develop the poor quality ground water that is found in the county. It would require a great deal of treatment to remove the minerals and other impurities, and I feel that the Missouri River dam waters would be much more acceptable for all uses, and there is a plentiful supply according to our governor. You know gentlemen, it is interesting to note here that back in the early 1960's the Clark County people were told that someday the Oahe Irrigation plan included their county so they signed certain petitions that allowed them to become a part of the Oahe Subconservancy District. The interesting thing is that in the final days of the old project, the only thing that our county was asked to do was give up 5,000 more acres for mitigation purposes. In addition our county has paid thousands of dollars in assessments to the subdistrict; those assessments started out in the range of \$4,000, and the 1981 assessment was over \$16,000. The people in our county, and indeed our State have given much in the way of money and land

and are anxiously awaiting the day for authorization and funding of water development projects that will benefit as many S.D. communities as possible. So it is that if there were any way that Clark County could become a part of the WEB system, merging the proposed Clark County RWS, I feel that our citizens would be compensated for the help and support that they have given in the past for the now defunct old Oahe project.

In SB 1553, Sec. 3 (a) the Sec^{State} is authorized to cancel the master contract, and participating and security contracts for the Oahe Unit, initial stage, and releases any and all funds accumulated by the Oahe Conservancy Sub. Dist under the master contract. I feel that this is a very important step in helping to solve the disputes between the district and the state. I further feel that there have been far too many "captains" on this water development cruise, and not enough "crew". We are now grateful for the present and clearly defined plan for action by our governor, William Janklow, and our Representatives in Congress. Again, I urge the passage of the Abdur-Roberts bill in order to realize a start in bringing about acceptable water development in our state.

One last point that I would like to leave with you gentlemen, and I mention it on behalf of many of our people. We hope that Clark County never again has to be confronted with the land mitigation process by the Bur. of Reclamation. Their personnel came to the court house and searched the files for landowners who had drained swamps and sloughs, with the intent of reclaiming those acres and turning them back to sloughs for wildlife habitats. Our farmers felt that the wildlife was more important than their own livelihoods.

Thank you Chairman Murkowski and members of the committee for taking the time to read this letter. We in S. D. and Clark County hope and pray that the proper steps will be taken in order to realize progress in the development of water projects in our state so that we may benefit domestically and economically.

Sincerely,

Ramona M. Kirkety
 Ramona M. Kirkety
 Clark County resident and
 member of the Bd. Of Comm.

City Of Aberdeen

South Dakota

Mayor's Office

September 2, 1981

Honorable Frank Murkowski
United States Senator
United States Senate
Washington, D.C. 20510

Dear Mr. Murkowski:

The Honorable James Abdnor has informed Delphine Janusz, Mayor of the City of Aberdeen, South Dakota, that a field hearing on S. 1553 will be held on Saturday, September 12, at the Pierre Civic Auditorium, beginning at 9:30 a.m., and that the City could submit a written statement of their testimony.

The Aberdeen City Commission welcomes you to South Dakota and extends to you their thanks for the time and consideration you are giving relative to water development for South Dakota.

The City of Aberdeen is specifically interested in the portion of Senate Bill No. 1553 which deals with "future uses in South Dakota of water delivered by the Garrison Unit, Pick-Sloan Missouri River Basin program, North Dakota", and "the potential for development of any other water project or projects proposed by the Governor of the State of South Dakota, in accordance with the policies or priorities of the State, which the Secretary determines may qualify for Federal construction funding under the terms of this section".

It is the feeling of the Aberdeen City Commission that there is need to assure to the State of South Dakota fulfillment of Federal commitment to South Dakota water development and the City of Aberdeen by its Commission joins in support of South Dakota's water development plan as set forth in S. 1553, and the City Commission wishes to emphasize its agreement with S. 1553 so as to assure a positive outcome.

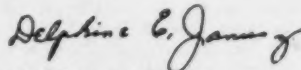
A stabilized flow of water in the James River is highly desirable and the Garrison Unit as proposed in North Dakota could provide the means whereby this could be carried out.

The State of South Dakota suffered a great loss of funds when it was decided to not move forward with the Oahe and Pollock-Herreid irrigation projects which had been designed and authorized, and if the Secretary of Interior was to see fit to carefully consider the proposals of the Governor of the State of South Dakota and officials of the South Dakota Department of

Water and Natural Resources, then many water problems facing South Dakota would be solved. The City Commission feels that the location and storage of water in South Dakota brings with it an entitlement by the citizens of South Dakota for benefits. The City of Aberdeen during the summer seasons has been forced to ration water due to an inadequate supply, and there does exist in the Missouri River an adequate supply of water which if made available to the City of Aberdeen would solve its water problems, together with other alternatives.

We respectfully solicit your cooperation in solving the water problems that exist for the City of Aberdeen, and it is our opinion that the enactment of S. 1553 would be a positive step and the enactment of that Bill has the support of the Aberdeen City Commission.

Sincerely,



Delphine E. Janusz
Mayor of the City of
Aberdeen, South Dakota

DEJ/rw



CITY OF PIERRE

222 EAST DAKOTA AVENUE
P.O. BOX 1253

GENERAL OFFICES 224-5921
PUBLIC WORKS 224-7341

PIERRE, SOUTH DAKOTA
57501

September 17, 1981

The Honorable Frank H. Murkowski
Chairman - Water and Power Subcommittee
United States Senate
Washington, DC 20510

Dear Senator Murkowski:

Thank you for bringing the public hearing on Senate Bill No. 4347 to Pierre. The people of South Dakota appreciate the opportunity to convey to you and your committee the need for water development in our state.

Being a very rural community many of the businesses are agricultural or semi-agri oriented. We know when our farmers and ranchers are having hard times; all our businesses have hard times.

While the City of Pierre enjoys an adequate supply of good water, many South Dakota municipalities are not so fortunate.

The City of Pierre supports water development for South Dakota. We believe the delivery of water to municipalities, development of rural water systems, water for industry, livestock and human consumption, and for irrigation are vital to South Dakota if we are ever going to realize any measure of progress and prosperity.

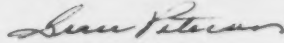
The people of South Dakota gave up over a half million acres of fertile farm and ranch land for the storage of water. Millions of dollars have been spent to tame the Missouri River and to generate hydro-electric power. It is time, in all fairness, to develop a water delivery system in South Dakota which will benefit the people of South Dakota.

Enclosed please find copies of Resolutions No. 1338, 1349, and 1365 pertaining to the support of water development in South Dakota. Resolution 1405 was adopted at the regular meeting of the Board of Commissioners on September 15, 1981. Also enclosed is a copy of that resolution and a certified copy of an excerpt of the minutes of that meeting.

Thank you for this opportunity to submit written testimony to your committee.

We hope you enjoyed your visit to our city and want you to know you are welcome to stop in anytime. Perhaps sometime you can stay long enough to enjoy some of our great hunting and fishing.

Sincerely yours,



Grace Petersen
Mayor

GP/mlg

cc James A. McClure

RESOLUTION No. 1338

A RESOLUTION OF CITY OF PIERRE REQUESTING CON-
GRESSIONAL SUPPORT FOR FUNDING OF A FEASIBILITY STUDY OF
THE WEST HUGHES IRRIGATION CONCEPT.

WHEREAS, the West Hughes Irrigation Concept can provide in-
creased agricultural production, and,

WHEREAS, increased agricultural production will provide
increased economic benefits for South Dakota and the
nation, and,

WHEREAS, economic, engineering, funding alternatives need to
be studied before the West Hughes Irrigation Concept can
be developed.

NOW, THEREFORE, BE IT RESOLVED, BY THE CITY OF PIERRE

- 1) The Congressional Delegation of South Dakota is
hereby requested to secure adequate funds to conduct
a feasibility study of the economic, engineering and
funding alternatives to develop the West Hughes
Irrigation Concept.
- 2) The Congressional Delegation of South Dakota is hereby
requested to expedite acquisition of such study funds.

PASSED, APPROVED AND ADOPTED THIS 19th DAY June, 1979.

SIGNED: Grace Petersen

*President of the Board of
City Commissioners*

Adopted: June 19, 1979
Published: June 29, 1979

Attest:

Carol M. Ruffcorn
Carol M. Ruffcorn, City Auditor

RESOLUTION NO. 1749

PIERRE CITY COMMISSION

WHEREAS, Abt Associates Inc., Cambridge, Massachusetts, is conducting a Riverside Appraisal Study of future social and economic effects and population trends or changes resulting from water development in the western portion of the Oahe Conservancy Subdistrict for the Bureau of Reclamation.

BE IT RESOLVED, that the Pierre City Commission endorse and support all types of water development in South Dakota and in Hughes County.

The economy of the area would be greatly enhanced and stabilized as a result of the installation of potential irrigation and other water development projects. The property tax base and sales tax would increase dramatically and improve the economic condition of our city and county.

The stabilized production of various agricultural products will encourage the development of a number of new and related industries and businesses. Final processing of agricultural products in the local area will permit farmers to remain competitive, considering deteriorating rail and highway systems and high energy costs.

We feel the proposed West Hughes County Irrigation Project utilizing part of the capacity of the original Oahe Project has tremendous potential for improving and stabilizing the economy of this area.

THEREFORE BE IT RESOLVED, that the Pierre City Commissioners urge that all irrigation and water development projects be given high consideration and be completed as rapidly as possible.

Vote of Commission 5 For 0 Against

Dated this 4th day of December, 1979, at Pierre, South Dakota.

Attest Carol M. Ruffner
City Auditor

Signed Clint Gregory
Mayor
Pierre City Commission

RESOLUTION 6365

WHEREAS, the State of South Dakota is, again, experiencing a year of less than normal precipitation; and

WHEREAS, adequate water is of critical importance to all segments of South Dakota society; and

WHEREAS, the purpose of the Oahe Unit, Missouri River Basin project, was to provide critically needed water to most of the State of South Dakota east of the Missouri River; and

WHEREAS, the development of the Missouri River dams removed 536,875 acres of productive farms and ranch land; and

WHEREAS, the lack of irrigation and rural water system development under the Pick-Sloan Program in Buffalo, Hughes, Hyde and Sully Counties has reduced economic development in these areas, and

WHEREAS, the City of Pierre has supported the development of the West Hughes Irrigation Concept as a multi-purpose water development program which could use components of, or acquire water from, Oahe Unit facilities in Hughes County; and

WHEREAS, no acceptable water development alternative has been prepared to replace the Oahe Unit; and

NOW, THEREFORE, BE IT RESOLVED BY THE CITY OF PIERRE, to oppose deauthorization of the Oahe Unit, Pick-Sloan Missouri River Basin Program until:

1. An Alternative Water Development Program has been prepared.
2. The Alternative Water Development Program must provide an equitable "trade-off" in funds to be expended and benefits to be accrued when compared against the present Oahe Unit authorization.
3. The Alternative Water Development Program must be acceptable to the people of South Dakota as expressed through their elected officials, including but not limited to, local elected officials, the Governor and the State Legislature.

Adopted: JUNE 17, 1980

Published: JUNE 20, 1980

Grace Petersen
Grace Petersen, Mayor

Attest:

Carol M. Ruffcorn
Carol M. Ruffcorn, City Auditor

RESOLUTION NO. 1405

A RESOLUTION OF THE CITY OF PIERRE, STATE OF SOUTH DAKOTA SUPPORTING WATER DEVELOPMENT IN AND FOR THE STATE OF SOUTH DAKOTA.

WHEREAS, adequate water is of critical importance to all segments of South Dakota society; and

WHEREAS, the purpose of the Oahe Unit, Missouri River Basin project was to provide critically needed water to most of the State of South Dakota; and

WHEREAS, the development of the Missouri River dams removed 536,875 acres of productive farm and ranch land; and

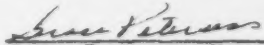
WHEREAS, the lack of irrigation and rural water system development under the Pick-Sloan Program has limited economic development in the State, and

WHEREAS, the City of Pierre has supported water development in and for the State of South Dakota, including the programs which would use components of, or acquire water from, Oahe Unit facilities in Hughes County,

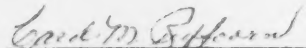
NOW, THEREFORE, BE IT RESOLVED BY THE CITY OF PIERRE, to support water development in and for the State of South Dakota.

Adopted: September 15, 1981

Published: September 25, 1981


Grace Petersen, Mayor

ATTEST:


Carol M. Ruffcorn,
Finance Officer

C E R T I F I C A T E

I, Carol M. Ruffcorn, the duly appointed, qualified and acting City Auditor of the City of Pierre, South Dakota, do hereby certify that the attached extract from the minutes of a regular meeting of the City Council of the City of Pierre, South Dakota, held on September 15, 1981, is a true and correct copy of the original minutes of the said meeting on file and of record insofar as said minutes relate to the matter set forth in said attached extract.

IN TESTIMONY WHEREOF, I have hereunto set my hand and the seal of the City of Pierre, South Dakota on this 17 day of September, 1981, at Pierre, South Dakota.

Carol M. Ruffcorn
City Auditor

(SEAL)

CLAIMS: (Cont.)

61,429.46. Water: D & D Auto Parts, tail light reflectors, 18.54; Dakota Chemical Company, carboys hfs chlorine, 516.55; General Trading Co., plugs drill oil clamp, etc, 429.83; Layne Minnesota Co., chemical treatment, etc., 3147.53; Lystads, Inc., pest control, 59.42; Monarch Uniform Rental, towels, 52.00; Peavey Company, flashlight, shovels, etc., 113.28; Safetran Systems Corporation, flasher, 101.40; Servall Towel & Linen Company, service, 5.50; Vogel Hardware, plug-in, nipples, etc., 15.60; Water Products Company, meters, valves, 2088.80; Zander Auto Parts, parts, 12.58. Sewage Treatment Plant: D & D Auto Parts, cut drum brake shoes, etc., 102.65; General Trading Company, wrench, 7.92; Peavey Company, tire gauge, batteries, 9.06; Plainsco, wrenches, 35.94; Sandvigs, Inc., wheel wrench, 8.75; S.D. Water & Wastewater Assn., book, 40.00; Urquharts, brake assembly belt, 15.40; Zander Auto Parts, glue rasket, 9.56.

The bids on fuel oil, held over from September 8, 1981, were considered. Commissioner Thomsen moved and Commissioner Kelley seconded to award the bid to: Item 1: Regular Gas - Forney Oil, low bid; Item 2: Diesel #1 and Diesel #2 - Pioneer Oil, low bid; and, Item 3: Fuel Oil - Pioneer Oil, low bid; subject to change in supplier's cost. Unanimous approval.

Melanie Miller appeared for the Chamber of Commerce and thanked the City Commission for the designation of \$60,000 for the Chamber, including Fourism, in the 1982 budget. She also introduced Virgie Hartford, new president for the Chamber and Kevin Stulken.

Bob Edwards, County Extension Agent, appeared and talked on the pilot program of hiring a horticulture student (usually a local person) from SDSU on intern-type training in the Pierre area during the summer months, working with the county. The program is funded by \$1100.00 from SDSU and and \$700.00 from the County. The University has advised their portion of the funding would have to be cut this year and Mr. Edwards requested the City participate in the program and appropriate \$300.00 for such in the 1982 budget. The County would then fund as usual, and SDSU would make up the difference. This will be considered in final adjustments in the budget.

The Mayor spoke on the Water Hearing held at the City Auditorium September 12, 1981. She advised that no official testimony was submitted by the City then and recommended a Resolution in support of water development in the State be submitted along with copies of the three resolutions passed earlier and an excerpt of the minutes of this meeting. Commissioner Merry moved and Commissioner Thomsen seconded the following Resolution be adopted, given a number, and published according to law, and authorize the Mayor to submit it and Resolution Nos. 1338, 1349, and 1365 and an excerpt of this date's meeting minutes in testimony. Unanimous approval.

Insert Resolution No. 1405

It was moved by Commissioner Merry and seconded by Commissioner Thomsen to authorize the Mayor to sign the BOR Amendment on the Golf Course, extending the project period to December 31, 1982. Unanimous approval.

Pollock-Herreid Irrigation Unit

HERREID, SOUTH DAKOTA 57038

Board of Directors:

Myron Johnson, Pollock, Chairman
 Lawrence Brandner, Herreid, Vice Chairman
 Les Heister, Herreid, Member

Les Knudson, Pollock, Treasurer
 Karl Mitzel, Herreid, Secretary
 Michael Madden, Mound City, Advisor



September 9, 1981

Senator Frank Murkowski, Chairman
 Senate Water & Power Sub Committee
 Dirksen Office Building
 Room 3104
 Washington, D. C. 20510

Dear Senator Murkowski,

The Pollock Herreid Irrigation Board wishes to submit the following as testimony in regard to the hearing to be held by your committee in Pierre, South Dakota on September 12th, 1981, in regard to Senate Bill 1553 dealing with South Dakota Water development and the possible de-authorization of the Pollock Herreid Irrigation District or modification of said district.

In Mr. Abdnor's remarks in support of S. 1553 as printed in the July 30th Congressional Record he proposes reauthorization of the Web Rural Water Project in lieu of the Oahe and Pollock Herreid Irrigation projects. We are not against and do support the authorization of the Web Project, but can not do so if it will mean de-authorization of the Pollock Herreid Irrigation Project and do not favor such a "trade". We can not and do not speak for the Oahe Board and Oahe Project and would also wish to make it clear once again that we are not part of the Oahe Irrigation Project. The Pollock Herreid Irrigation District is a separate Irrigation District and is in no way connected to the Oahe Unit.

Section 2 of said remarks authorizes the Secretary of Interior to study in cooperation with the State of South Dakota the possible development of a number of water projects, in lieu of the Oahe and Pollock Herreid Irrigation Projects. Again may I say that we feel this type of legislation is unfair to the residents of Campbell County and especially to the landowners and potential irrigators in the Pollock Herreid Irrigation district who have waited patiently these past 15 years, only to have the project delayed again and again by numerous studies, changes and the Bureau's insistence on designing and building an outdated open ditch system.

Mr. Abdnor also mentions the investigation of a modified version of the Pollock Herreid Irrigation District. The Pollock Herreid Board has no objection to such investigation and possible redesign and development of such a modified district, but can not make any comments either pro or con until such a plan is made available to the board.

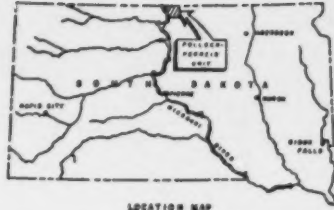
Pollock-Herreid Irrigation Unit

HERREID, SOUTH DAKOTA #7698

Board of Directors:

Myron Johnson, Pollock, Chairman
Lawrence Brandner, Herreid, Vice Chairman
Les Heisler, Herreid, Member

Les Knudson, Pollock, Treasurer
Karl Mitzel, Herreid, Secretary
Michael Madden, Mound City, Advisor



LOCATION MAP

In closing we again want to stress our objection to the possible de-authorization of the Pollock Herreid unit, which could mean the loss of what little ground we have gained over the past 15 years and also the possibility of the loss of the water rights to the district, the county and state.

Sincerely,

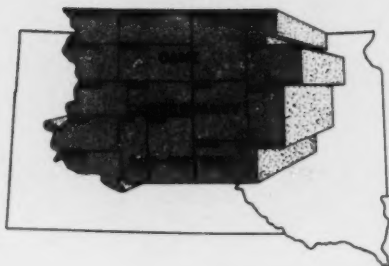
Board of Director
Pollock Herreid Irrigation Unit.

Myron Johnson, Chairman
Leslie Heisler, Member
Lawrence Brandner, Member

Karl Mitzel
Karl Mitzel, Secretary

EXECUTIVE COMMITTEE
JOHN SIEH - Groton
 Chairman
LEONARD NAESSIG - Webster
 Vice Chairman
ARNOLD SCHURR - Racine
 Secretary
ROGER HANSON - Pollock
 Treasurer
HAROLD HADRIK - Faulkton
CURT HOHN
 Manager

423 Fifth Avenue, S.E.
 P.O. Box 1985
 Aberdeen, SD 57401
 Telephone: 605/239-1123



DIRECTORS
RON FRANKENSTEIN - Redfield
 Spink County
HAROLD HADRIK - Faulkton
 Potter and Faulk Counties
ROGER HANSON - Pollock
 Campbell and McPherson Counties
DALE HARGENS - Orion
 Hyde and Hand Counties
KEN MARSH - Agar
 Sully and Hughes Counties
LEONARD NAESSIG - Webster
 Day and Marshall Counties
ARNOLD SCHURR - Racine
 Walworth and Edmunds Counties
JOHN SIEH - Groton
 Brown County
THEODORE SPAULDING - Huron
 Municipal Director
STEVE THORSON - Aberdeen
 Municipal Director
IRVING WESSEL - Huron
 Beadle and Clark Counties

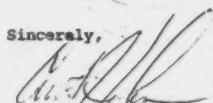
September 15, 1981

Mr. Russ Brown
 Senate Subcommittee on Water & Power
 3106 Dirksen Senate Office Building
 Washington, D.C. 20510

Dear Mr. Brown,

Enclosed find the written testimony of Mr. Lewis Schmitzen, R.R., Harrold, South Dakota. He asks that it be included in the record of the hearing held September 12th in Pierre.

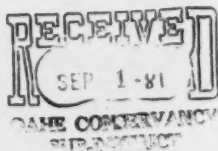
Sincerely,


 Curt Hohn, Manager
 Oahe Conservancy Sub-district

Harold L. Dahl
Aug 29, 1981 57534

Dear Sir,

I am writing in regard to the Lake project. This project should be deauthorized it is no good. I live in Sully County where the Blunt reservoir will be built. I own 11 quarter of land. Which I will lose 5 quarters in the reservoir we will not have a good 30 miles left. It takes all our pasture land and excellent alfalfa ground there is not any land to replace this in our area we will be unable to operate our Unit. we have 100 cow calf units on this land. Sully County will lose 41,000 acres of land for wheat land that cannot be replaced you are losing best land for the Lake Dam, you cannot replace land by destroying more, look at the Canada that have been built without a disaster. the U.S. Government owns land in the Blunt reservoir. Sully County has been paying taxes every year that has to be payed by the private land owners, we in Sully County have lost 26,665.76 in taxes each year this is based on 1980 valuation, the U.S. Government has not paid the 75 cents per acre in previous years, this loss of taxes have to be paid by private land owners



Sincerely
Harold L. Dahl

1728 South Third St.
Aberdeen, S.D. 57401
September 5, 1981

The Honorable Frank Murkowski, Chr.
Senate Subcommittee on Water and Power
Hearing, S-1553, Pierre, S.D. 57350

Dear Senator and Committee Members:

I am Harriet Montgomery, Aberdeen, S.D.

My experience with water includes: two years as a delegate to State Water Goals. I am past chairman and present member of the Aberdeen city planning commission, and a member of the Aberdeen citizen water advisory commission.

I am past state and local president of the League of Women Voters. As a LWV member, I served as state water chairman and participated in water studies concerning water quality, quantity, and usage since 1956.

These studies included a 1968 Seminar for seven states in the Upper Missouri Basin where I served as S.D. representative and planner.

I was employed by SDSU, Brookings, as an extension specialist for three years, and served as women's Editor for Dakota Farmer, a State Agricultural Magazine.

As a charter member of the State Humanities Committee, I studied many programs geared to various facets of water problems in the state, from 1970-78, and heard ideas from every part of the state. These reflected political and population changes in the past ten years. S-1553 treats several proposals:

1. WEB

I have monitored the WEB program since it began in 1975, by attending board meetings; working for funding; and helping to set up the first office.

WEB would provide desperately needed water--a good quality, inexpensively treated, Missouri River water--carried by buried pipes along the right-of-way so that no farm land is taken and no mitigation is required.

WEB would serve 30,000 people, in 52 small towns and 3,000 ranches, across ten northcentral counties. Supporters have collected about \$ 638,000 in hookup fees so far. Local people do support this project.

Some counties are labeled "disaster" this summer. Rural areas are hauling water for homes and cattle. Deep wells cost around \$30,000 to replace, and then, last only a short time. Water quality is so poor it destroys appliances and plumbing more quickly than usual.

Although the population is sparse, nine ranches with cattle on range, may use as much water as a small town of 100 families. With an assured supply of good water, ranches could produce more, and better quality beef to improve the economics of these counties.

Violations of the safe drinking water standards have been recorded in 34 communities.

Sec. 9 of Public Law-95-355 authorized WEB for a \$70 million dollar grant, in June 1980. For immediate use was \$1.9 million, and the 1982 Reagan budget carries \$33 million.

WEB has carefully avoided any involvement with the Oahe Irrigation project. WEB serves a geographical area with treated drinking water ; Oahe is south, and would provide open ditch irrigation water.

Money for WEB was to be channeled through the Farm and Home Administration, which is respected and trusted for its work in many rural programs, especially the rural water systems.

Through political maneuvers, WEB funds were tied, in a June Conference Committee, to be dependent on deauthorization of the Oahe project, by Sept. 30, 1981.

S-1553 proposes to reauthorize WEB under the Secretary of Interior. This would give WRPS (BOR) responsibility for implementation. This section of the bill does not guarantee the benefits of the original authorization to WEB. More than that, it puts the project in the hands of WRPS (BOR) which has a poor reputation among the rural people who have watched the problems of Oahe and Garrison just north of this area, in North Dakota.

To avoid being a BOR project, WEB raised its own money for study by private engineering and is ready for construction. This season already is gone when river intakes could have been installed at low cost because the water levels were greatly reduced in the river.

Inflation is increasing costs; water needs in the area intensify. WEB funds should be released and the project enabled to proceed as quickly as possible.

Section 2

This bill calls for study money. WRPS (BOR) has studied for 30 years as part of the Oahe project; the Army Corps has South Dakota studies on river use. The Missouri Basin Commission reported in 1980 on two years of study in the James River basin, the first of their subregional analysis studies. Wildlife, Game and Fish have put together information on their preferred usage for the Rivers; EPA has studies on water quality.

Facts have been researched. More study money is further delay. WEB, and other small domestic water projects, need funds to build now, and get water to our scattered rural people.

CENDAK would deliver raw water in open ditches, east and south, using Oahe features depending on where it turned south, but eliminating the north branch to the irrigation districts.

Raw water is promised for canalside irrigation and for town use. No provision is made for drinking water for rural use. Raw water for city use would be at the cost of the town for intakes, storage during months of dry canal in winter, and treatment to drinking water standards. Cost of treatment varies with water quality at intakes.

BOR reports for the Oahe project making the same promises for municipal water stated that municipal water was available, but ¹not a part of the project plans or costs.

Each community water project would be a separate project to be authorized and funded at the will of congress.

New requirements for water projects require a local commitment. Many small towns do not have this money. Even state money has not been available for water projects in more populated areas.

With political fanfare, a new generation of believers are seeking studies for Cendak. Oahe studies labeled much of the land along the route unfit for irrigation. This information is available to Cendak. Where irrigation is feasible, private development has occurred.

Oahe made many of these promises. When the Environmental Impact Statement came out in 1972, rural people who were to carry out the plan, protested, and united to seek deauthorization.

Cendak now has the support of uninformed and misinformed land owners and small town residents and well as the support of politicians, and the news media, which is centered outside the area, and which reflects the desires of population centers for economic development.

Much information is available for Cendak. WEB supporters raised their own funds for concept study and a feasibility study done by private engineers. The ^{the} Oahe Conservancy subdistrict helped to pay for these studies which affected ten counties in the district.

^{Lower James} The Conservancy subdistrict, affected by Cendak plans, could do the same, and have access to all the previous information from the Oahe studies as basis for research.

South Dakota has supported BOR studies for Oahe and the dams for more than 30 years. The efforts taxpayers have paid for, should be used. --we do not need a new era of study to review the facts already researched. Available funding is needed for actual construction of small rural water systems ready to go or complete.

Garrison Water

The James River has been studied for years as various agencies have viewed its uses and special problems.

Now the problems change daily with political decisions on the Garrison Diversion project in North Dakota. The quantity and quality of irrigation drain to South Dakota depends on the size and shape of the Garrison as funding efforts continue.

The two state governors, now in office, have talked about the problems. This makes headlines, but it does not solve the legal implications of flooding, degraded water quality, and possible dewatering of the James River to serve North Dakota irrigators.

The Governor's plan to import water for irrigation and city use downstream is conceptual, but studies are needed to coordinate the use of the James River water to the best advantage of both states.

Since Garrison has money for a project, it would seem the funds for disposal of the drain should come from that source.

Pollock-Herreid

Even before the authorization, this land had been studied by BOR, and owners knew whether their lands were irrigable. In my opinion, deauthorization of the project would allow those now wishing a project, the chance to work out what is possible in the area. Given the new local up-front money needed, projects may not be feasible.

State Water Plan

Long term planning is essential. As a delegate to Water Goals, I supported this need which was placed in top priority by the group. However, the format for implementing this goal fell short.

Area hearings brought forth water development needs of many kinds. Choices for inclusion in the final package for legislative approval, made by political appointees, became politically motivated.

The present state water plan includes some conceptual projects such as Cendak, and the Garrison water importation, which may take years of work on study, and finding funds for support.

Meanwhile, the state plan ignores many smaller water projects now inline--they are engineered and need only construction money. Many are rural water systems to provide treated drinking water for small towns and rural areas, and have been supported by Farm and Home Administration funds.

Getting the South Dakota act together on water development, must include the rural people who carry out the projects, as well as the population centers who hope to have economic gains from major projects with impacts on people living in another part of the state.

Use of Criteria from Flood Control Act of 1944

This bill would keep the benefits of low interest, pumping costs, and hydro power which came with the Oahe Project to be used on other developments in the state.

These rates were a subsidy to the irrigator at the expense of the general user of electricity. I urge the deauthorization of the Oahe project in all phases. Present development should be based on the worth of present projects and current costs, paid by those who benefit, not the general public.

Cancellation of Oahe Projects Contracts now held by Irrigation Districts, and Release of Funds to Conservancy subdistrict.

Contract cancellation would leave the irrigation district framework intact, with taxing and eminent domain powers. The district could fit into any other water project including C&N, which already proposes to use Oahe Project features.

The contract is the weapon for local control to prevent any reactivation of the Oahe project. Since the 600 farms in the districts comprise only 10% of Brown County in West Brown, and 20 % of Spink County in Spink, and both districts have voted to support deauthorization of the Oahe project, political pressure is heavy from other parts of the state to remove the contracts from their control, by Congressional action.

I oppose the removal of the contracts from the districts, and suggest that deauthorization of the Oahe project in all phases would solve this problem.

Funds now held by the Conservancy subdistrict should be freed for use in other water development for the area since it was taxed from 15 counties, all sections could benefit instead of the Oahe project irrigators in the two irrigation districts. This money could be used to advantage now, for a variety of smaller water projects.

It would appear this bill is trying to hold the Oahe project authorization, which I Oppose --Please deauthorize, so we can start over to build an acceptable water program for the state.

The bill seeks study money. We need construction money now.

The bill seeks to deauthorize WEB and reauthorize for funds to come from Interior instead of Farm and Home. WEB is authorized and can function if Oahe is deauthorized. I urge the immediate deauthorization of Oahe in all phases.

The bill seeks release of contracts from irrigation districts, which I oppose.

The bill seeks release of Oahe funds for other use by the ~~selected~~ Conservancy subdistrict. This I support.

This bill seeks study money for Cendak, which I oppose. It also seeks study money for the Garrison reflow to the James river. This study I approve, but feel it should come from Garrison project funds. Furthermore, I believe Garrison total funds should be eliminated.

Thank you for consideration of my testimony on proposed bill S-1553 in Hearing.

Harriet Montgomery

1728 S. 3rd St.

Aberdeen, S.D. 57401

Harriet Montgomery



SOUTH DAKOTA STATE UNIVERSITY
Brookings, South Dakota 57007

Economics Department
Scobey Hall
605-688-4141

Sept. 15, 1981

To: Senator Frank Murkowski, U.S. Senator
Fr: Russell L. Berry, associate professor economics (ret.)
Re: Testimony for Senate Subcommittee on
Water and Power -- Oahe project

Enclosed is my statement on "Why
the Oahe Irrigation Project Should Be
Deauthorized." Please accept it as my
testimony for the Hearing at Pierre,
South Dakota, Sept. 12, 1981.

Also enclosed is a copy of my article
"Will Oahe Irrigation Pay its Way?" The
Farmer, Nov. 2, 1974 (updated 6-15-77). This
article's findings and conclusions are
still valid today despite USBR's claim
that direct benefits are now expected to
be \$1.72 per \$1.00 spent (1-1-81). This high
benefit-cost ratio is achieved by ^{continued} gross under-
estimation of costs as pointed out in the article.

RLB

WHY THE OaHE IRRIGATION PROJECT SHOULD BE DEAUTHORIZED

Testimony by Russell L. Berry, Ph.D. Agricultural Economist, presented to the Senate Power and Water Subcommittee Hearing at Pierre, S.D. September 12, 1981

I am Russell L. Berry, an agricultural economist with special interest in land resource economics. I received my doctor's degree from Ohio State University in 1966 after earlier work at the University of Illinois, Michigan State University, and Harvard University. For the past 30 years (1949-80) I have been on the faculty of the Economics Department, South Dakota State University. Most of my work has been research with the Agricultural Experiment Station. In the 1950's the U.S. Bureau of Reclamation was hoping to irrigate nearly 2.0million acres of farmland in central South Dakota at very low cost. The project appeared to be feasible and I favored the project.

But by 1965 the Bureau had concluded that there was only 495,000 acres which could be irrigated and this land was in the Lake Plain area between Redfield and Aberdeen 100-200 miles from the Oahe reservoir. The reduced acreage and greater average distance greatly increased estimated costs to \$988 an acre.

The importance of acres irrigated can be shown if we assume that the pumping plant, Blunt reservoir, Lake Byron reservoir and the main canals would cost \$460 million regardless of the acres to be irrigated. Then we can easily see the effects of acres irrigated on costs. Thus:

<u>Plan</u>	<u>Total fixed costs</u>	<u>÷ Acres irrigated</u>	<u>= Average fixed cost per acre</u>
A.	\$480,000,000	÷ 2,000,000	= \$240
B.	\$480,000,000	÷ 1,000,000	= \$480
C.	\$480,000,000	÷ 500,000	= \$960
D.	\$480,000,000	÷ 250,000	= \$1920
E.	\$480,000,000	÷ 125,000	= \$3840

Note that every time acres are cut in half the average fixed cost doubles!

Also note that Plan C is very close to the Bureau's 1965 estimated cost of \$988 per acre but that Plan E with 125,000 acres has an average cost of \$3,840 per acre. This raises a question: When the Bureau concluded that only 90,000 acres of land could be irrigated how did it manage to keep costs down to only \$2,323 per acre?

Unfortunately the high hopes generated by the dream of plans A or B did not decrease as acres decreased and costs doubled. The hope was kept alive by the Bureau's 1965 conclusion that for every \$1 of cost there would be \$1.70 of direct benefits.

Was this a realistic estimate of costs and benefits? Economist Edward Renshaw, then at the University of Chicago, found serious fault with the Bureau's estimates of costs and benefits of its other irrigation projects. Specifically he criticized these assumptions:

1. That irrigation would make it possible for new irrigators to make 2 1/2 more income.
2. That all increased income is due to irrigation.
3. That irrigators savings are a benefit of irrigation.
4. That both for farmer and the federal government could borrow money for less than 4% interest.

When Renshaw used more realistic figures he found that only one of 30 of the Bureau's constructed irrigation projects showed benefits of more than \$1 for every \$1 spent. Most showed benefits of less than 50 cents per \$1 spent.

In 1965 I analyzed the Bureau's costs and benefits for Oahe project and concluded that the faults found by Renshaw still existed and hence their benefit and costs were grossly misleading. However when I presented my paper for publication by SDSU it was rejected for the reason that it would "just cause trouble" (Dr. Rex Helfinstine, chm. Research Committee, Economics Dept., SDSU -- fall 1965).

Because Oahe project was so highly popular there is no doubt in my mind that it would indeed have caused trouble. Also there was no doubt that it would be fruitless to try to get administrative approval for publication. Hence I made no further effort until the summer of 1967 to get my views concerning the Oahe project published.

During 1967 there was much publicity about the alleged benefits of the Oahe project. Hearings preliminary to authorization were scheduled for the fall. I decided that the only way to get my views on the Oahe before the public was by a letters to editors of South Dakota's dozen daily newspapers. My first letter was published by the Sioux Falls Argus Leader Sept. 10, 1967. Most of the State's daily

newspapers also published this as well as my three additional critical of Oahe letters. The first appeared only a day or two before the congressional hearings in Washington to determine whether or not Oahe should be authorized.

Is Oahe needed -- now or in the foreseeable future? This is the question I raised in my letter (copy attached).

This is the question before us today. In answering this question I quoted from Food and Fiber for the Future, the report of a distinguished National Advisory Commission, released July 1967. Here are the quotations as they appeared in my letter with my comments on their relevancy today.

1. "U.S. farmers have the capacity to produce more than their commercial markets will absorb at prevailing prices"

COMMENT: This is as true today as it was in 1967 and I predict will be true for the foreseeable future.

2. "Long-run solutions to the world's hunger problem must come through population control and increased food production in the hungry countries."

COMMENT: Students of this problem are almost unanimous in their agreement with this statement.

3. "Public funds for agricultural reclamation, irrigation, drainage and development projects should be justified on the basis of whether they represent the cheapest means of getting additional farm production -- if needed."

COMMENT: The evidence is overwhelming that Oahe project is not the cheapest way of producing more food and fiber. It is one of the most expensive ways and there is no evidence that the increased production will be needed in the foreseeable future.

4. "The nation has no shortage of farmland, now or in the foreseeable future."

COMMENT: The Soil Conservation Service pointed out 20 years ago that there was 105 million acres of land that could be developed for farming for less than \$100 an acre. Most of that land is still available for development. Furthermore there has been, thanks to improved seeds, fertilizers and other chemicals and technology an astonishing increase in crop and livestock yields during the last decade.

The pressing need is to develop more farmland and improved farming in the hungry countries of the world. The hungry countries cannot afford to import our foods and we cannot afford to give it away -- except for temporary relief in time of disasters or to prevent war.

In 1967 Governor Nils Boe criticized attempts by the federal government to "buy" solutions to pressing social problems. He called for experts to find more fundamental and less expensive solutions. Now we have the opportunity to take this advice by deauthorizing the Oahe project. As an economist -- a professional expert who has studied this problem, I strongly recommend that Oahe project be deauthorized. Furthermore, I urge that we do not insist that other water projects be authorized as a "price" for the deauthorization of Oahe for these reasons:

1. The taxpayers of this nation do not "owe" South Dakota either the Oahe project or some substitute.
2. The landowners along the Missouri River whose land was taken for the reservoirs were handsomely compensated for this loss by the taxpayers.
3. South Dakota has been generously compensated for many years. For every \$1 paid as federal taxes South Dakota has received \$2-3 in return from the federal treasury.
4. Oahe project is not in the public interest -- it is a waste of our resources. Before another project is authorized it should be justified by more rigorous cost-benefit analysis than was made for the Oahe project.
5. Finally the federal government should not fund any project that can be developed by private or state interests unless it can be clearly shown that for some reason federal participation is absolutely necessary.

Thank you for allowing me to present this testimony.

Voice of the People

Says Critics of U.S. Spending Should Oppose Oahe Irrigation

To the Editor of the Argus-Leader:

Gov. Kils Doe has sharply criticized much of current federal spending as an attempt to "buy" solutions to the nation's "pressing" problems. Warning of disaster, he has called upon clergy, economists and sociologists to consider more fundamental and less expensive solutions (Brookings Register, Aug. 30, 1967).

No one, we think, will disagree with Gov. Doe that better and cheaper solutions to the nation's problems are much to be desired if such can be found. Strangely enough, though, we seem to be reluctant to apply this principle to federal spending for the proposed Oahe irrigation project. The Bureau of Reclamation's report on the Oahe Unit, 1965, proposes that \$50 million be spent to irrigate 500,000 acres. This is an average cost of \$1000 per acre. Only 1,200 of South Dakota's 59,000 farmers would receive irrigation water. Another 1,500 new farmers would be expected to move into the area.

Oahe irrigation would produce more food but is it needed? The National Advisory Commission on Food and Fiber in its report, *Food and Fiber for the Future*, July 1967, says that:

1. "U.S. farmers have the capacity to produce more than their commercial markets will absorb at prevailing prices."

2. "Long run solutions to the world's hunger problem must come through population control and increased food production in the hungry countries."

3. "Public funds for agricultural reclamation, irrigation, drainage and development projects should be justified on the basis of whether they represent the cheapest means of getting additional farm production — if needed."

4. "The nation has no shortage of farmland, now or in the foreseeable future."

5. "Nearly 80 million acres could be returned to crop production in a short time." Only three fifths of the soils "suited for regular cultivation are being cultivated."

Irrigation of the Oahe is by no means the cheapest way to get more food. Agronomists at State University have long stressed that fertilizers can be used to drastically increase crop production in South Dakota.

The Food Commission "be-

lieves that both technology and capital will continue to flow into agriculture. In the 1950's hybrid corn and new tractors were exciting innovations. Today, the farmer is using more sophisticated machinery of all kinds, better seeds, herbicides, insecticides, antibiotics and so on. We may well be poised on the threshold of an even greater technological revolution."

If and when more acres are needed the Soil Conservation Service estimates 105 million acres can be cleared for farming (Moderna Land Policy). The average cost would be less than \$100 per acre. Irrigation would not be needed.

That Oahe irrigation costs will be high as indicated in the Bureau's Report which says that farmers can be expected to pay back only 20 per cent or about \$200 of the \$1,000 construction costs per acre. The other \$800 will be paid by Missouri River Basin electric power pools. When they can, the users will pass this cost on to their customers — the taxpayers — in the form of higher prices for what they sell.

The Bureau estimates that there will be "direct" benefits of \$1.70 for each dollar spent. Unfortunately there is no comparison with the returns that might be secured from alternatives such as fertilizers and other possible uses of the money. Fertilizers often return \$2-4 for each dollar spent.

The Bureau expects "indirect" and "public" benefits to yield another \$1.10 per dollar spent. This may be true. However, spending the money for other uses would also generate increased profits for marketing, job opportunities, investment opportunities, etc.

The federal government (the taxpayers) paid a good price for the land in the reservoirs. Irrigation in the Oahe area will not help local government units that lost part of their tax base to the reservoirs.

Senate hearings on 490,000 acres of the Oahe Irrigation project, costing an estimated \$1,000 per acre, are scheduled for Sept. 13 in Washington. The House Plans to hold hearings at Huron or Redfield Oct. 7.

If the taxpayers are concerned about federal spending, now is the time to speak up.

—Russell L. Perry,
Brookings, S.D.

Sioux Falls Argus-Leader
Sun., Sept. 10, 1967

Note: Since 1974 USBR estimates Oahe irrigation costs have increased from \$338 to \$441 million and hence cost per acre has increased from \$1,600 to \$2,300 (\$2,600 total cost). In 1976 USBR increased benefits from \$1.30 to \$1.60 per dollar spent by using Fort Thompson unit farm budgets. This changed corn yields from 82 to 152 bushels per acre, off-farm earnings from 40 to 60 cents per hour, effective farm interest rate from 4.0 to 1.3 percent, and farm parity from 93 to 76 percent. These changes do not affect the basic analysis and conclusions of this article --
R. L. Berry, 6-15-77.

Will Oahe irrigation pay its way?

NO!

by Russell L. Berry*

WILL THE Oahe Irrigation Project in South Dakota be a blessing or a curse? The Bureau of Reclamation claims it will be a blessing because it provides more food, some "insurance" against droughts and more job opportunities.

The U.S. Water Resources Council recently ruled that all new federal water projects shall be evaluated by comparing different ways of achieving specific goals for "improvement of the quality of life" as indicated by "the desires of people." Hence I make the following comparisons of alternatives.

World populations are growing, thus we will need more food in the future. But is the Oahe project the most economical way to produce it? In 1973, U.S. farmers raised crops on 320 million acres of land. Yet the Soil Conservation Service says there are 638 million acres that could be cropped on a regular basis, if needed. Thus the acreage of crops could be increased nearly 100% simply by plowing up pasture, clearing land of brush or stone and by drainage. Millions of acres of this land can be brought into production at no public development costs. Even when clearing and draining are needed, the cost is seldom more than \$200/acre.

Between 1950 and 1973, crop yields increased 59%, and there is every reason to believe farmers can increase yields still more to help meet any foreseeable needs at home or abroad.

In March, 1973, the Bureau reported to Congress that the cost of the Oahe project would be \$338 million. Of this, about \$300 million would be used to develop an elaborate "waterworks" and "sewage" system for 190,000 acres of land. If these costs are accurate, if costs do not increase, and if 190,000 acres of land are irrigated, the cost will be about \$1,600/acre.

Is this a reliable estimate? The Bureau has just under-estimated the cost of the Oahe pumping

plant by \$2.5 million, or 35%. Land economist Edward Renshaw, State University of New York, Albany, found that, on 34 of its projects, the Bureau underestimated its cost by 214%—even after most of the effects of inflation had been removed. Hence, the cost may be as high as \$5,000/acre (\$1,600 plus perhaps a 214% overrun).

Employment opportunities?

Jobs are necessary if people are to be able to achieve freedom from basic wants, necessary before they have freedom to achieve the good life. However, we have had full employment for three decades. Hence the Water Resources Council has ruled that, in comparing ways of improving the quality of life, "full employment will be assumed, except where local areas of chronic unemployment, underemployment or other conditions indicate otherwise."

The Bureau assumed a high level of employment, except on Indian reservations. Is the Oahe project the wisest way to handle the Indian problem? Perhaps intensive job training and employment services would appear to be more desirable when there is a full employment economy.

In the event of a severe depression, "make work" projects may be justified, but even then only the most beneficial projects should be built.

If more job opportunities in South Dakota are deemed necessary to achieve the good life, the Oahe project is merely one of several alternatives needing careful study before it is built.

The Corps of Engineers recently proposed to double the hydroelectric energy produced at dams on the Missouri. If feasible, this may be a much wiser choice than the Oahe in the use of our resources. With more electric power and plenty of water available, this may do much more to attract industries and create new job opportunities than will the Oahe project.

Drought insurance?

The Bureau says the Oahe area is a "high-risk" farming area. With irrigation, "production would not vary greatly from year to year... thus the primary benefit from irrigation of the (Oahe) unit would be economic stability."

But Oahe irrigation will not change the unpredictable variations in the area's rainfall. Thus these variations may create se-

There's controversy arising over the Oahe Irrigation Project in South Dakota. A two-year moratorium has been requested—to better determine the unresolved economic, social and environmental aspects of the project. Articles on these pages discuss both sides of some of the issues involved.



Russell L. Berry

vere problems of overwatering or underwatering—depending upon the farmer's guess as to whether it will rain or not. Also, irrigation will not reduce hot winds, frost or hail damage. Indeed, it may increase the damage—since crops will be more valuable.

Also, Oahe irrigation would stabilize crop yields of no more than 1,000 of South Dakota's 43,000 farmers and ranchers. It would cover less than 10% of the land in Brown and Spink counties and only 1.4% of the 14 million acres of cropland in South Dakota.

What are the alternatives and their costs? One possibility is federal crop insurance. Another is private drought insurance. Either would be expensive, but then the risks and administrative costs are great. Because such insurance is expensive, most farmers elect to "take their chances" on the weather. Of course, if the people of South Dakota are willing to subsidize this insurance, few farmers will reject it. Few can afford to look such a gift horse in the mouth.

Who will benefit?

If \$338 million is spent to build the Oahe project, someone will get the money. Most of it will be paid to contractors and they will pay most of it to their employees and for machinery, fuel, lumber, cement and other construction materials. But, in a full employment economy, this is of little benefit to them. If they were not working on the Oahe

project, they would be working on other important projects such as factories, housing, hospitals, schools, highways and parks.

The same reasoning applies to suppliers of contractors and their employees. They would be selling their construction materials and machinery in any event. Local businessmen would be busy meeting the needs of construction workers, whether building houses or dams.

Many contractors and their employees would merely come from other areas in the state. Thus, much of the Oahe gains would be offset by losses in other communities. There would be a net loss to South Dakota because all this effort to increase and stabilize farm production could provide job opportunities could be achieved at much less cost.

Who then, if anyone, would benefit from the Oahe irrigation project? As noted, the Bureau expects to spend \$1,600/acre on it. Of this cost, landowners are expected to pay 10%, or about \$160/acre. When irrigation increases land values by more than \$160, the landowner will benefit. The benefit will vary greatly and is known as a "windfall gain," since the landowner did not have to pay for it. But the next owner will have to pay the full value of the land; hence the windfall gain is a once-only effect.

Since about half the Oahe land is owned by nonfarmers, they will get much of the benefits. After irrigation, farmers who buy or rent this land will get very few, if any, benefits.

Who will pay?

Who will pay these irrigation costs? The Bureau reports that users of Missouri River Basin electricity will pay 87% and water users 13% (irrigators 10%). Most users of Missouri Basin power are the people of the Dakotas, Montana, Nebraska and Wyoming. Since the other states have their own projects,

(to page 20)

Reprinted from the
Nov. 2, 1974 issue
of The Farmer.

*Russell L. Berry (PhD) is associate professor of economics at South Dakota State University, Brookings. Views, opinions and conclusions expressed are his own and not necessarily those of colleagues and administrators at South Dakota State University.

Oahe—No!

(from page 14)

much of the cost of Oahe irrigation will be borne by South Dakotans.

Will the project require an increase in electric rates? Not if present rates are high enough to pay the estimated \$300 million cost. But if the project is not built, electric rates could be lowered. Lower rates might attract more industry and provide more job opportunities. Lower rates would mean lower farm and family living costs.

However, if the Oahe project is not built, then 14% of the \$345 million spent on the Oahe dam allocated free-of-charge to Oahe irrigation may be paid from electric income. Question: Would it be better to pay 14% of \$345 million that the Oahe dam has cost or 87% of \$300 million or more irrigation may cost?

Why the approval?

The Bureau of Reclamation evaluated the Oahe project in 1965 and concluded that benefits would be \$1.60 per \$1 of costs. In 1971, they revised their cost estimates and concluded there would be \$1.30 in benefits for each \$1 spent. Unfortunately, their study was based on some unrealistic assumptions which

land resource economists Robert K. Davis, Robert Barbera and Phil Carver of Johns Hopkins University (Baltimore) have just revised. These revisions and their cumulative effects on the benefit-cost ratio are as follows:

Bureau of Reclamation, 1971 benefit-cost ratio	\$1.30
Changed farm interest rate from 4.8 to 7.5%	\$1.13
Changed farm labor rate from \$4.00 to \$1/hr	\$1.03
Changed electric power costs from 2.5 to 11.5 mills/KWH	\$.94
Changed farm parity ratio from .94 to .90	\$.76
Changed federal interest from 3 1/4 to 4 1/4%	\$.56
Adjusted farm prices to remove subsidies	\$.23

In 1973, the Bureau presented new cost figures showing the benefits per dollar spent had fallen to \$1.10. Had the Johns Hopkins economists started with this figure, the benefits per dollar spent would be even lower. Also, the labor rate of \$1/hr seems very low. Power costs also may be low. The Federal Power Commission has estimated that additional steam-generated power will cost 11.55 mills/KWH by 1980. Its average cost over the next 100 years may be much higher.

Is the Oahe project the best way to produce more food? To provide crop "insurance"? To provide jobs? The evidence is clear. There are cheaper and better ways to achieve these and other goals. We cannot afford the Oahe project. ☐

Bureau of Reclamation claims countered

THE BUREAU of Reclamation claims several specific advantages for the Oahe project. Some of these claims and Dr. Berry's comments follow.

Bureau: "Development of the Oahe project would result in . . . diversified crop and livestock production."

Comment: The Bureau says the most important crops will be alfalfa and corn. Sugarbeets are not likely to be grown now that the subsidy has been removed. Truck crops are not likely to be able to compete with areas closer to markets. There may be more livestock but hardly more diversification.

Bureau: "Development of the Oahe unit would result in . . . an increased number (500) of farms."

Comment: First, this claim is based on the 160-acre limitation that applies to Bureau projects. This unrealistic law is regularly circumvented by having the wife or some other family member hold part of the land. Also, this requirement does not prohibit renting of irrigated land. Second, the 500-farm increase does not take into account the number of farms lost by the 110,000 acres that will be required for reservoirs and canals. Third, is spending \$1,600/acre for irrigation the best way to stabilize or increase the number of farmers?

Bureau: "Development of the Oahe unit would result in . . . increased investment opportunity."

Comment: In planning this project, the Bureau assumed there would be full employment and highly profitable agriculture, as indicated by their assumption that farmers would have the favorable price-cost relationships that existed briefly in 1973. In such an economy, there would be many attractive opportunities for investment. Hence, the Oahe project would be completely unnecessary to provide more—at the high cost of \$1,600/acre.

Bureau: "Development of the Oahe unit would result in . . . increased and stabilized net farm income."

Comment: Irrigation water will increase and stabilize yields but will not increase net farm income without a very heavy subsidy by the users of Missouri Basin electric power. The Bureau says electric users would pay \$1,440/acre to increase the net income of 500 to 1,000 farmers.

Bureau: "Development of the Oahe Unit would result in . . . improved rural community facilities, such as schools, roads, mail services, etc."

Comment: Why not spend the \$338 million directly on improving community facilities all over South Dakota? Much more improvement might then result. The people who pay, mostly South Dakota's users of MRB electric power, should have a choice. We should seek the cheapest or most beneficial way to improve community services. The Oahe project is unbelievably expensive, both as a way of increasing production and hence improving community services.

Bureau: "Development of the Oahe unit would . . . justify the large sacrifice of agricultural land to the (Missouri River) reservoirs."

Comment: The federal government paid good prices for land flooded by the reservoirs. Instead of the land, we have large fresh-water reservoirs, second only to the Great Lakes in size. These lakes are quite valuable for fishing and recreation. Even if there was some small sacrifice, the Bureau has not demonstrated that Oahe irrigation is the best way to compensate for it. Local communities along the reservoirs might be compensated more directly by payments in lieu of taxes lost.

Bureau: Development of the Oahe unit would create a need for new processing plants. "These . . . would include sugar refineries, canneries, meat-packing plants, alfalfa-dehydration plants, dairy product enterprises and locker plants."

Comment: Sugarbeet refineries are not likely since there is no longer a sugar subsidy. Fruit and vegetable production in the area does not seem promising—judging by the experience of similar irrigation projects in the Great Plains and other areas far from markets. But the important thing to remember is that the \$338 million should be spent only for projects having maximum net benefits. Since the Oahe project may not produce direct benefits, the money should be spent only on projects that do. Otherwise, we are saying that the way to make money is to waste money. This is one of the oldest fallacies of economics.

Bureau: "Development of the Oahe unit would . . . increase tax revenues to federal, state and local governments."

Comment: Users of Missouri River Basin power will be "taxed" enough to pay 87% of the cost of this project to produce food that could be produced much more cheaply by other means. Food produced by cheaper means would generate larger net incomes and larger tax revenues than the Oahe project. ☐

Viewpoint and comment

A closer look at Oahe

THERE'S indecision, uncertainty and unhappiness arising over the Oahe Irrigation Project, now awaiting only congressional funding before digging starts. As pointed out in the article on page 14, cost estimates have risen tremendously since Congress authorized the project in 1968. . . .

The 700-member United Family Farmers organization, South Dakota Environmental Coalition, plus other organizations and individuals have requested a two-year moratorium in Oahe development—more time to get explicit answers to the above economic, social and environmental questions. Are there less costly, more practical alternatives for increasing food production, employment and power needs, as well as insuring against droughts? they ask.

On the other hand, as pointed out in the article on page 15, Oahe irrigation has been a long time coming. Grassroots spokesmen were given opportunity to investigate and vote

prior to creation of the Oahe Conservancy Sub-District in 1960, formation of the West Brown and Spink County Irrigation District in 1965, congressional authorization for the irrigation project in 1968 and, with approval of voters in the irrigation district, the participating (repayment) contracts and security contracts were executed in 1969.

But a lot of water has passed over the Oahe dam the past 5 to 15 years. Inflation takes a bigger and bigger bite from taxpayers' pocketbooks each year and will continue to do so unless we heed President Ford's advice to "bite the bullet." In other words, be sure every nickel spent is necessary spending. Perhaps the same should apply to the Oahe Irrigation Project—make certain at this point it is the best alternative and that it will be a wise expenditure, more beneficial than detrimental. Better to determine this now than to call a halt after millions have been spent for the digging (as now being proposed in the case of the Garrison Diversion Project in North Dakota).

UNITED FAMILY FARMERS, INC.

Box 523
Aberdeen, South Dakota 57401

September 16, 1981

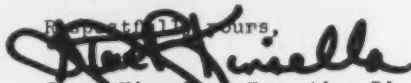
Senator Frank Murkowski
3104 Dirksen Senate Office Building
United States Senate
Washington, D.C. 20510

Dear Senator Murkowski:

I am enclosing a copy of several sections out of the proposed CENDAK project's feasibility study. This study was completed by CH2M Hill of Denver, Colorado. I have also enclosed a summary of these sections that we prepared. Each statement in the summary is indexed according to the page in the study the information was taken from.

I would like this information to be made part of the hearing record for S-1553. If you have any questions, please feel free to contact me at any time. Thank you.

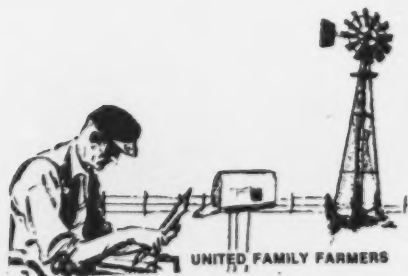
Respectfully yours,



Steve Kinsele, Executive Director
United Family Farmers, Inc.

enclosure

86-635 1271



CENDAK IRRIGATION PROJECT MASTER PLAN
SEPTEMBER 1981
PREPARED BY: CH2M HILL-DENVER, COLORADO

THE FOLLOWING INFORMATION WAS OBTAINED FROM THE STUDY THAT WAS RECENTLY COMPLETED BY AN ENGINEERING FIRM. THE STUDY WAS REQUESTED BY THE PROMOTERS OF THE CENDAK PROJECT.

COST OF THE CENDAK DELIVERY SYSTEM-using only open canals

page 1-2

\$375,000,000 for the main delivery system and major facilities
(\$1,120 per acre)

\$268,000,000 for the open ditch lateral(secondary) system
(\$800.00 per acre)

\$643,000,000 (\$1,920 per acre)

COST OF THE CENDAK DELIVERY SYSTEM-using pressure pipes for laterals

page 1-2

\$375,000,000 for the main delivery system and major facilities
(\$1,120 per acre)

\$164,150,000 to \$348,400,000 for a pressure pipe serving land adjacent to the canal and a pressure pipe system serving land two miles from the main canal (\$490.00 to \$1,040)

\$539,150,000 to \$723,400,000 (\$1,610 to \$2,160 per acre)

page 8-3

These figures do not include the cost of drainage, which according to the Eastern South Dakota Basin Report(1975), ranged from \$500.00 to \$1,000 per acre.

page 1-3,4

The study recommends that the financing of the preliminary design and feasibility study could require \$4-\$8 million dollars.

page 8-6

The study also stated that \$2.8 million dollars per year would be required for the operation and maintenance of the main delivery system.

page 9-10,11

The study stated that a realistic assumption on the main delivery system would be a 50-year payout period with interest at 7.5%. The table on page 9-11 showed that the cost for the main delivery system per acre per year, would be \$86.32. If you multiply this

figure by 50 years and then multiply it times the 335,000 acres in the proposed project, you would end up with a main delivery system costing \$1.5 billion dollars over the 50 year period.

SIZE OF THE DELIVERY SYSTEM

page 8-2
figure-4

According to the study, the size of the delivery system would have to be increased. A comparison to the Oahe Project shows this increase. In many cases, the capacity would have to be tripled.

HIGHMORE CANAL

	OAHE	CENDAK
Capacity	2,130cfs	7,300cfs
Base Width	50ft.	90ft.
Water depth	11.7ft.	19ft.

PIERRE CANAL

Capacity	1,140cfs	3,200cfs
Base width	44ft.	65ft.
Water depth	10.8ft.	13ft.

ELECTRICITY NEEDED

page 8-12

According to the study, an increased amount of electricity will have to be used for the proposed CENDAK Project.

OAHE-99.2 million KWH

CENDAK-177.1 million KWH

page 8-6,11

This represents a 78.5% increase. The study also assumes that the 2.5 mills low cost power, under the Pick-Sloan Plan, will be retained.

page 6-2

The report also states that the proposed Blunt Reservoir will be used.

940

CENDAK
IRRIGATION PROJECT

MASTER PLAN

CH2M  HILL

SEPTEMBER 1981



September 2, 1981

D14992.A0

Mr. David Hauschild
Chairman
CENDAK Steering Committee
212 North Fin
Pierre, South Dakota 57501

Dear Mr. Hauschild:

Transmitted herewith is the Master Plan report for the
CENDAK Irrigation Project.

This report has been prepared in accordance with instructions from the CENDAK Steering Committee's Executive Board. It is organized essentially in accordance with the Appraisal Report outline provided by the Bureau of Reclamation dated March 9, 1981. Under separate cover, we are also transmitting a brief report providing cost curves and procedures to estimate costs for smaller laterals of less than 100 cfs and on-farm facilities, both open-ditch and pipe systems.

CH2M HILL appreciates the opportunity to work on a new and exciting concept in irrigation development. If we can be of further assistance, please let us know.

Sincerely,

Michael R. Stansbury

Michael R. Stansbury, P.E.
Manager, Water Resources Division

jle
Enclosures

86-835 1275

Rocky Mountain Regional Office
CH2M HILL Building, 1-25 at Orchard Place, P.O. Box 22508, Denver, Colorado 80222 303/771-0900

ALTERNATIVES CONSIDERED

A number of different canal alignments for the distribution system were considered in developing the irrigation system. Wherever possible, an attempt has been made to follow section lines for the canal alignment and stay away from wetlands and potential environmentally sensitive areas. The proposed system configuration is intended to be representative of the type of system that could be built to serve the lands identified for irrigation. It is likely that substantial changes could occur during feasibility and final design studies.

The cost of the major facilities for the CENDAK project is estimated at approximately \$375 million. This cost includes all major pumping plants, canals, canal branches, and appurtenant structures.

Based on the total area served, 396,000 acres, the unit cost of the main delivery system is \$950 per acre. Based on acres irrigated by the center pivots, 335,000 acres, the unit cost of the main delivery system is \$1,120 per acre.

In addition to the main delivery system, costs for laterals less than 100 cfs and on-farm facilities can be estimated by procedures outlined in a separate report on determining costs for the lateral distribution system. Two primary types of lateral distributions were considered; one with open gravity fed ditches to on-farm pumps and the other, pressure pipes served by pumping stations on the main canals. Typical cost of the open ditch lateral system would be \$1,070 per acre at 50-percent density. Typical cost of the pressure pipe lateral system would range from \$600 per acre for a pivot adjacent to a main canal to \$1,820 per acre for a single pivot 2 miles from the main canal.^{10/6}

Annual operation cost of the main delivery is estimated to be \$8.35 per acre for general O&M and \$1.01 per acre for basic pumping power cost. In addition, those areas requiring multiple pumping lifts, such as the Highmore Branch, could reach \$15.50 per acre based on the assumptions used.

FEDERAL INVOLVEMENT

The Oahe Unit of the Missouri Basin Pick-Sloan Project was authorized by Congress as part of the irrigation function of the overall basin plan and to replace lands flooded along the Missouri River when Oahe Dam was constructed. However, several groups voiced such strong opposition that the project was placed in a "deferred" status. Although the CENDAK project is not directly related to the Oahe Unit, the project sponsors would like to substitute proposed Oahe funding for the major facilities of the CENDAK project. The Federal

government would then be relieved of its responsibility to replace the original Oahe project lands. As part of the commitment of the Federal government to develop and improve living conditions in the Great Plains Region, provisions were enacted to utilize excess power revenues for water resources development. Fulfillment of that commitment, even 40 years later, would greatly enhance the CENDAK project.

PROBLEMS AND NEEDS

The project is designed to accomplish two main goals:

1. To bring high-quality water to nearly 400,000 acres of fertile lands in central South Dakota, and;
2. To develop sufficient irrigated land so that the economic trends in the area can be reversed and economic growth can be promoted.
3. To provide an assured supply of high quality water for multiple use in the project area.

The proposed CENDAK project is one of the most promising ways of accomplishing these goals.

INSTITUTIONAL ARRANGEMENTS

Three major areas requiring appropriate institutional arrangements are discussed. These are sponsoring entity, water rights, and financial arrangements. A unique project of the type envisioned will require an appropriate sponsoring entity. The entity must be legally strong, yet flexible to meet the changing needs of the project. It must also be acceptable to local members and local, state, and Federal governmental agencies. Five options were considered: a nonprofit corporation, an irrigation district, a water user district, a separate conservancy subdistrict, and the Oahe Conservancy Sub-District. It is recommended that a water user district be formed which covers only those lands to be irrigated.

Upon acceptance of a Master Plan concept and the establishment of a water user district, it is further recommended that a future use water application be prepared and filed with the state. This future use permit will require legislative approval. Upon completion of the preliminary plans and feasibility studies, the future use permit should be converted into a regular water right permit. This may be done in stages.

The final and most difficult institutional arrangement is to plan for financing of the project. Financing of the preliminary design and feasibility study could require up to 1 or

2 percent of the anticipated construction cost. Raising \$4 million to \$8 million, or \$10 to \$20 per acre, could be difficult. Initially a more limited feasibility could be undertaken with the preliminary design of a definite plan delayed to a later date. Options include a per-acre assessment, subdistrict or county financial assistance, state financial assistance, Federal government appropriations, and/or a combination of these methods. Considering the economic conditions of the project area with its recurring disaster designations due to drought conditions and its potential for a viable economy based on irrigated agriculture, it would be appropriate for Federal assistance in conducting the feasibility and preliminary design studies.

Financing of capital cost will again require innovative combinations of private and public assistance. Operational and maintenance costs, along with a portion of the amortized capital costs, should be covered by water service contract revenues.

The United States Bureau of Reclamation (USBR) has conducted a number of land classification surveys within the study area. In addition to 5-foot borings, these surveys involve a minimum of two to four deep (10-foot) borings per township, depending on the level of detail. However, many of these surveys considered irrigation only by gravity and did not evaluate lands that by reason of position or topography must be irrigated by sprinkler. Most of the study area lands will be irrigated by sprinkler.

Other information pertinent to drainage conditions within a part of the study area includes investigative reports prepared by the United States Geological Service in cooperation with the South Dakota Geological Survey.

The results of these investigations by the various agencies will be of great assistance when drainage of the proposed project lands are considered. However, since drainage is often the factor that limits successful long-term irrigation, we feel that direct measurement of the conditions affecting drainage is absolutely necessary. For this reason, we strongly support the investigative program being undertaken by the South Dakota University at Brookings as described in their paper entitled "Preliminary Determination of Irrigability of CENDAK Project Soils."

According to Title 12, Department of Agricultural, State of South Dakota, the state permit requirements for soils information can be met using up-to-date SCS soils survey data and reports. Published soil surveys are available for Hand, Hughes, and Beadle Counties. A completed but unpublished survey is available for Faulk County. The Spink County survey is an older publication and may require field updating to meet state permit requirements. The Hyde County survey was started recently and the fieldwork may not be completed by the SCS for a year or more. The needed information could be made available at an earlier date if that portion of Hyde County within the study area was mapped during the beginning of the SCS fieldwork.

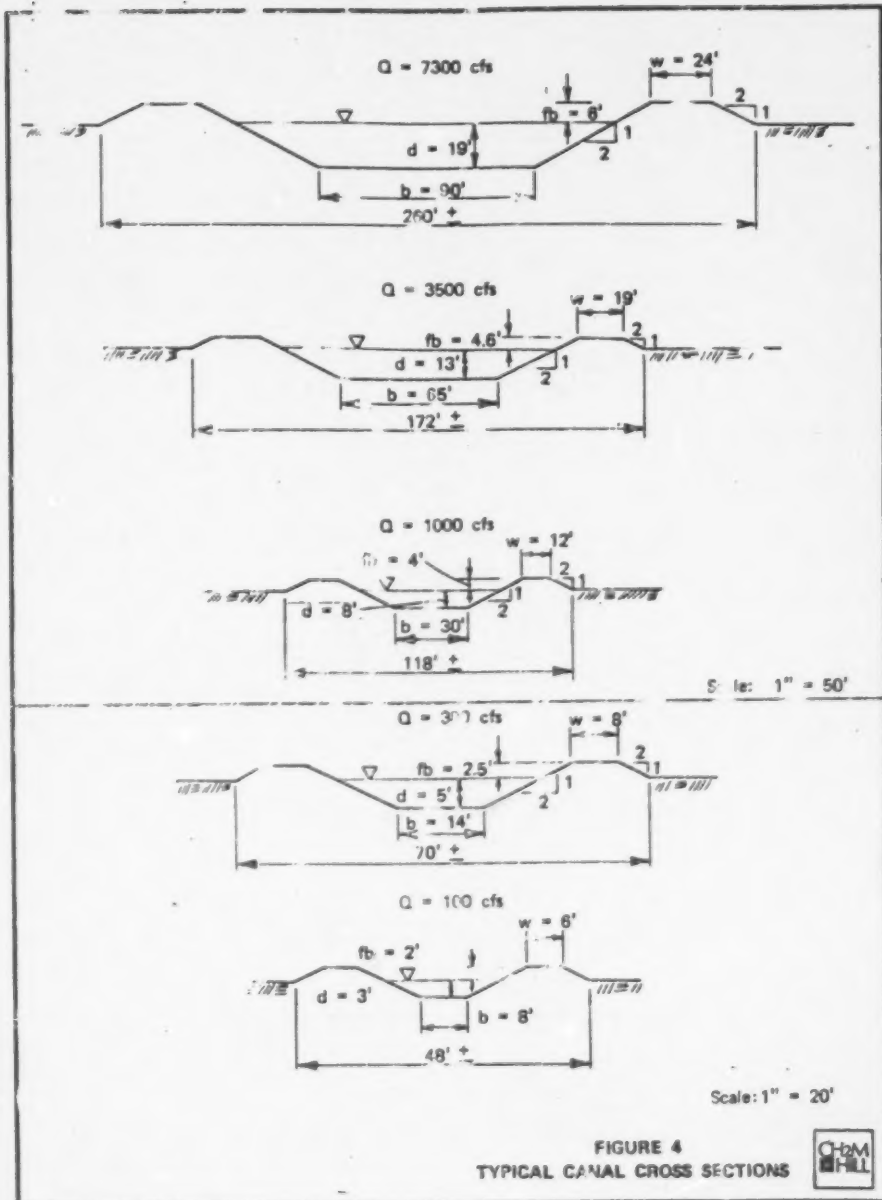
The high cost of development of irrigated land requires that only those lands most economically suitable be selected for implementation. The selection of these lands requires a knowledge of the soils within the study area. Much usable soils information is available to us from the SCS and the USBR.

The design of the irrigation scheme itself is dependent upon a detailed knowledge of the soils and drainage conditions within the irrigable area. Although there is a considerable collection of general soils information available, there appears to be a limited amount of detailed soils and drainage data for those lands within the study area.

Table 5
FACILITY DESCRIPTIONS
CENDAK MASTER PLAN

Facility	Initial Capacity cfs	Length Miles	Area Irrigated Acres
Oahe Pumping Plant	3,200	NA	335,000
Pierre Canal	3,200	34.1	335,000
Blunt Reservoir	381,000 ^a	NA	325,000
Higmore Canal	7,300	39.1	325,000
South Hyde Canal	1,190	55.4	54,700
South Hyde Pumping Plant No. 1	1,190	NA	54,700
South Hyde Pumping Plant No. 2	1,043	NA	51,200
Higmore Branch Pumping Plant	220	NA	11,200
Higmore Branch	220	11.8	11,200
North Hyde Canal	350	14.5	16,900
North Hyde Pumping Plant No. 1	350	NA	16,900
North Hyde Pumping Plant No. 2	248	NA	12,420
South Hand Canal	3,500	46.7	154,440
Miller Branch	200	23.5	14,200
North Beadle Canal	1,450	32.9	66,700
Broadland Branch	420	15.5	24,980
South Beadle Canal	1,030	42.3	47,400
North Hand Canal	150	4.0	7,970
Spink Canal	800	42.5	37,000
Redfield Branch	320	18.0	15,500
Faulk Canal	870	27.0	49,100
Orient Branch	170	2.4	8,640
Faulton Branch	260	13.0	13,200

^a Measured in acre-feet; active storage between elevations 1677 and 1701 msl; total storage 631,000 A.F.



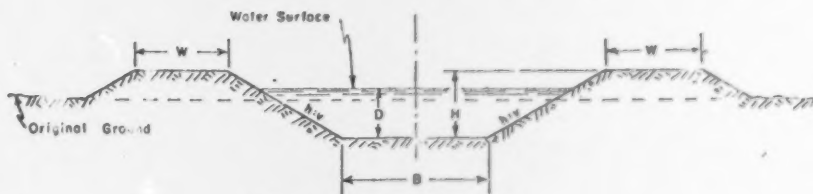
"Information Sheets", Oahe Unit, 1976
Published by the Bureau of Reclamation

Tentative Data on Supply Canals - Oahe Unit - Initial Stage
(Data compiled from 1971 Definitive Plan Report, Oahe Unit - Final Characteristics may be changed somewhat in final designs)

Characteristics	Feature	Pierre Canal	Highmore Canal	Fashion Canal	Crestford Canal	West Nile Canal	Redfield Canal	James Canal	East Nile Canal
DESIGN PROPERTIES									
Length (miles)		36	38	24	12	17	12	3	41
Capacity (Initial and)	(c.f.s.)	1,440	2,130	2,050-2,000	3,100	2,400-600	1,000-350	500	1,200-600
Base width (B)	(ft.)	10	50	50	60	50-32	40-20	24	48-18
Width at water surface	(ft.)	87	100	94	112	79-63	74-62	50	90-72
Water depth (D)	(ft.)	10.8	11.7	11.0	13.0	11.0-7.8	8.6-5.4	6.4	10.4-8.4
Velocity	(ft./sec.)	2.01	2.40	2.59-2.53	2.95	3.03-1.62	2.19-2.09	2.12	1.70-1.30
Water prism side slope	(h:v)	2:1	2:1	2:1	2:1	2:1	2:1	2:1	2:1
Operating road berm width (W)	(ft.)	20	20	20	20	20-14	16-14	14	16-14
Berm above bottom grade (H)	(ft.)	16.8-15	17.7-16	15.3	17.6	15.3-11.4	12.5-8.1	9.5	14.5-12.0
RIGHT-OF-WAY									
Average acres per mile		46	33	26	27	23	16	29	22
Acres required		1,650	1,260	625	340	640	355	100	900
Maximum width	(ft.)	1,800	550	450	600	350	350	350	400
Minimum width	(ft.)	200	100	100	200	130	110	120	140
Average width	(ft.)	377	272	218	224	181	131	243	167
CUT-FILL RELATIONSHIP									
Depth of maximum cut	(ft.)	97	31	31	45	25	21	24	26
Total length of cuts over 75 ft.	(ft.)	2,200	--	--	--	--	--	--	--
Total length of cuts 50-75 ft.	(ft.)	7,200	--	--	--	--	--	--	--
Total length of cuts 25-50 ft.	(ft.)	23,300	8,800	2,100	6,300	--	--	--	75
Total length of cuts 15-25 ft.	(ft.)	31,500	60,000	21,500	18,000	4,200	3,200	15,700	11,000
Maximum fill to bottom grade	(ft.)	32	4	11	--	16	6	--	--
Total length built on fill	(ft.)	800	200	200	--	1,000	2,700	--	--
INTERSECTION OF ROADS AND TOWNSHIP LINES									
Section lines and townships	(no.)	23	22	12	7	8	11	1	0
County and township roads	(no.)	17	23	12	6	32	12	1	31
Federal and State highways	(no.)	2	1	2	0	2	1	1	2
Total		42	46	26	13	43	24	3	41
CANAL BRIDGES PROVIDED FOR									
Farm roads	(no.)	4	--	1	2	2	--	--	5
County and township roads	(no.)	8	12	0	2	18	7	1	13
Federal and State highways	(no.)	2	1	2	--	2	0	1	2
Railroads	(no.)	1	--	1	--	1	--	--	2
Total		15	13	12	5	23	0	2	20

Final characteristics may be changed somewhat in final designs.

TYPICAL CANAL SECTION



- B = Base width of canal.
D = Water depth.
H = Height of operating road or above bottom grade.
W = Operating road or berm width.
h:v = Water prism side slope (Ratio of horizontal to vertical).

For purposes of the master plan, two basic lateral systems were considered. One covers an open ditch system originating at a main canal and terminating at a farm pumping station to provide the necessary water delivery under pressure to operate one or more pivot systems. See Figure 5 for a typical layout. This type of open ditch lateral system would be used where topography and individual farmer's desires would allow it. Generally it will be less expensive than the pressure pipe system. The second lateral distribution system is a pressure pipe system where a pumping station on the main canal will feed a pressure pipe serving one or more pivots. The pumping station provides sufficient pressure to operate all pivots on the line without additional booster pumps. See Figure 6 for typical layouts.

The cost curves and procedure was used to determine total and unit cost for the open ditch lateral system shown in Figure 5. These costs are summarized in Table 7. Other lateral layouts and density distributions will result in different per acre costs.

The pressure pipe system layouts, as shown on Figure 6, were also costed out. These costs are summarized in Table 8. Other pressure pipe layouts and density distributions will also result in different per acre costs.

ANNUAL OPERATION AND MAINTENANCE

Estimates of annual operation and maintenance (O&M) costs for the main delivery system were prepared. These costs are composed of two primary components: the general O&M of all major facilities described in Table 5 and the annual power cost for pumping at the Oahe Pumping Plant and for pumping stations on the South Hyde Canal, North Hyde Canal, and Highmore Branch. All other main canals would be gravity fed. Pumping costs for the open-ditch laterals and pressure-pipe laterals (both less than 100 cfs) are included in the procedures to determine lateral distribution system costs.

General O&M costs for the major facilities are based upon a percentage of the construction cost as determined from other major irrigation projects. In this case a factor of 0.75 percent was used. The general O&M cost is calculated at \$2.8 million per year or \$8.36 per acre. This compares favorably to the \$11 per acre used for some Nebraska systems and to the ratio of general O&M cost to construction cost for the main facilities proposed for the Oahe Unit.

Pumping costs depend upon the electrical rates used. At this point no one knows if Pick-Sloan Missouri Basin Program irrigation set-aside power at 2.5 mills per kilowatt hour would be available. With wheeling charges, etc., this

Table 9
MAIN DELIVERY SYSTEM POWER COSTS
CENDAK MASTER PLAN

Pumping Plant	Area Served Acres	Annual Power Requirement kW Hr	Power Rate Dollars	Total		Accumulated	
				Annual Cost Dollars	Cost Per Acre Dollars	Cost Per Acre Dollars	Cost Per Acre Dollars
Oahe	335,000	136,000,000	0.0025	340,000	1.01	1.01	1.01
South Hyde No. 1	54,700	17,000,000	0.015	255,000	4.66	5.67	5.67
South Hyde No. 2	44,400	13,000,000	0.015	195,000	4.39	10.06	10.06
Higmore Branch	11,000	4,100,000	0.015	61,500	5.49	15.55	15.55
North Hyde No. 1	16,900	4,700,000	0.015	70,500	4.17	5.18	5.18
North Hyde No. 2	12,400	2,300,000	0.015	34,500	2.78	7.96	7.96

177,126,000

updated with completion of the SDSU/USD Econometric Model Study. These numbers do not include the cost of water delivery to the unit, including both fixed cost and annual O&M and power cost. *Drainage*

From the Project Formulation and Evaluation Chapter an estimate of total project construction cost was made. These estimates are as follows:

Open Ditch Delivery System:

Main delivery system	\$1,120/acre
Open ditch lateral system (typical)	240/acre
On-farm pump station, pipe, and pivot	560/acre
Total	\$1,920

Pressure Pipe Delivery System:

Main delivery system	\$1,120/acre	\$1,120/acre
Pressure pipe system layout A	490	1,040
Pressure pipe system layout E		
Total	\$1,610	\$2,150

Pressure pipe system layout A is a minimum-cost system in that the irrigated quarter section lies adjacent to a main canal. Layout E is a maximum-cost system in that the irrigated quarter section is 2 miles from the main canal and there is no intervening irrigation.

The conversion of construction cost to annual cost depends upon the time period selected for the economic life of the project and the interest rate to be used. A realistic assumption on the main delivery system would be a 50-year payout period with interest at 7.5 percent, the current Federal interest rate being used on water projects. The open ditch laterals and/or pumping plants and pressure pipes could be considered for a 25-year payout period at 10-percent interest. The on-farm pivot system could realistically be considered on a 15-year payout period at 15-percent interest rates. Using these assumptions plus a "typical" layout for the open ditch system and a range of layouts for the pressure pipe system (i.e., those used in the examples in the report, "Procedures to Determine Costs for the Lateral Distribution System"), the annual cost of facilities are as follows:

Per Acre Annual

Open Ditch System

Main delivery system	\$ 86.32
Sublateral open ditches	26.44
On-farm pumping plant, pipe and pivot	<u>87.85</u>
Total	\$200.61

Pressure Pipe System

Main delivery system	\$ 86.32
Pumping station	14.32
Pivot	73.53
Pipe layout range	<u>11.07 to 71.61</u>
Total	\$185.19 to 245.78

Added to these annual equivalent costs would be annual operation and maintenance costs, of which power cost would be the major factor. The Grass Rope farm-budget analysis did include "on-farm" facility O&M cost plus power for the pivots and booster stations. Thus, the only L&M cost missing from the above analysis is that required for the main delivery system. An O&M cost for the main delivery system of \$8.35 per acre, exclusive of power, is estimated based upon similar large irrigation projects. Power cost for the main delivery system is estimated to range from \$1.01 per acre for the build of the system, up to \$15.55 an acre for the area served by the Highmore Branch.

CONCLUSIONS

The purpose of the above discussion is not to provide a definite determination as to the economic feasibility of the CENDAK project. The level of confidence in the appraisal-level cost estimates and the assumptions used in applying the Grass Rope Unit farm budget to this project prohibits a definitive answer to the question of economic feasibility. The information presented does, however, show that the project is in range of being economically feasible based upon direct benefits to the individual operation. The effects of secondary benefits to communities and the state as a whole would be in addition to those direct benefits shown.

SEPTEMBER 7, 1981

SENATOR MURKOWSKI-

AS A LANDOWNER AND FORMER COUNTY COMMISSIONER IN HYDE COUNTY, I AM WRITING TO EXPRESS MY OPPOSITION TO THE OAHE PROJECT OR ANY FEDERAL FUNDS BEING EXPENDED FOR THE STUDY OF AN ALTERNATIVE USE OF THE OAHE PROJECT FACILITIES. AS A COUNTY COMMISSIONER, I WAS CONTINUALLY BOTHERED BY THE FACT THAT THE COUNTY HAD THE RESPONSIBILITY FOR THE OPERATION AND MAINTENANCE OF THE BRIDGES THAT WOULD BE CONSTRUCTED OVER THE CANAL. IF ADDITIONAL BRIDGES WERE TO BE CONSTRUCTED BY THE COUNTY OVER THE CANAL, THE FULL EXPENSE OF THE BRIDGES WOULD BE THE RESPONSIBILITY OF THE COUNTY. IN ADDITION, A MODIFICATION OR IMPROVEMENT OF THE BRIDGES BUILT BY THE BUREAU OF RECLAMATION WOULD BE THE COST OF THE COUNTY

THE OAHE PROJECT WOULD ALSO HAVE MANY OTHER SERIOUS IMPACTS ON THE COUNTY. TRANSPORTATION WOULD BE ALTERED DUE TO FEWER BRIGES AND THE FACT THAT ROADWAYS WOULD BE CUT. ALSO, CONSTRUCTION WOULD REMOVE PART OF THE HYDE COUNTY TAX BASE.

I URGE THE SENATE SUB-COMMITTEE ON WATER AND POWER TO DE-AUTHORIZE THE OAHE PROJECT AND PREVENT WHAT COULD VERY WELL SPELL TRAGEDY FOR THE COUNTIES INVOLVED. I WOULD ALSO RECOMEND THAT YOU NOT PROVIDE STUDY FUNDING TO DETERMINE AN ALTERNATIVE USE FOR THE FEATURES OF THE OAHE PROJECT. THIS AREA WOULD BE BETTER OFF WITHOUT ANY TYPE OF A CANAL.

THANK YOU FOR YOUR TIME AND CONSIDERATION. I WOULD BE HAPPY IF THIS COULD BE MADE PART OF YOUR OFFICIAL HEARING RECORD. THANK YOU.

RESPECTFULLY YOURS,

Emory E. Hinkle

EMORY HINKLE
HOLABIRD, S.D. 57540

Senator Frank Murkowski, Chairman
Senate Sub-Committee on Water
and Power
Washington, D.C.

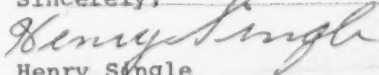
Dear Chairman Murkowski:

My name is Henry Single and my mailing address is Holabird, South Dakota. I live in the area that the canal for the Oahe Irrigation Project is planned to run through. I would like to make it clear that I am opposed to any type of a canal. History has proven that it doesn't matter what a particular project that uses a canal is called, it will still meet with opposition from the area landowners. I and my neighbors fought the Oahe Project and we will fight any other plans to put a ditch through our area.

Senator Abdnor's legislation wants to study alternative uses for the original Oahe Project. The Bureau of Reclamation has already spent millions of tax dollars conducting many studies. I don't think we need to spend millions more trying to find a solution to a problem that we already know the answer to.

I am enclosing several petitions I and my neighbors circulated in opposition to the ditch. I would like them to be made part of your record. Thank you.

Sincerely,



Henry Single
Holabird, S.D. 57540

PETITION

WHEREAS, in the past many promises were made that scientific crossed by proposed Oahe canals would get irrigation water and domestic water, only to find later that no water was provided or assured; and

WHEREAS; construction of proposed open ditches and canals and reservoirs in Hyde, Band, Hughes, Boudier, and Sully Counties would result in certain land loss, impact, and cost to private land owners, school districts, and the county government; and

WHEREAS: it is important that all the people potentially involved in the counties mentioned be aware of all factual information before decisions are made and before project or projects;

THEFORE; we the undersigned request and petition the Oahe Conservancy Subdistrict Board & County Commissioners to sponsor public meetings in the area to provide the public with factual information on the situation, with regard to land loss, wildlife migration, irrigation potential, federal soil requirements, payment obligations, and other matters. Further, the Oahe Project as authorized is not acceptable.

Name _____

Address

Date _____

~~Wm Bloomer~~	~~Highmore S.D.~~	~~1-17-81~~
Kellan G. Halphre	Highmore S.D.	1-17-81
~~Wm Bloomer~~	~~Highmore S.D.~~	~~1-17-81~~
Floyd Mink	Highmore S.D.	1-17-81
John E. Halphre	Highmore S.D.	1-17-81
Morton Sullivan	Highmore S.D.	1-17-81
Robert Edgeworth	Stephan S.D.	1-17-81
Amy Wundel	Rae Hight S.D.	1-17-81
Larry Lyndall	Rae Hight S.D.	1-17-81
Frank R. Chan	Highmore S.D.	1-17-81
* Robert H. Thurgate	Highmore S.D.	1-15-81
Terry Kuck	Highmore S.D.	1-15-81
* Mary Ann	Highmore S.D.	1-18-81
Randell R. Jura	Highmore S.D.	1-19-81
Larry King	Highmore S.D.	1-19-81
Larry King	Highmore S.D.	1-11-81

I swear that the persons listed above signed this petition in my presence.

listed above signed this petition
Wm. B. Bloomer
 name circulator
Shelburne, So. Dak.
 address

Dated this 26th day of January, 1981.

PETITION

WHEREAS; in the past many promises were made that counties crossed by proposed Oahe canals would get irrigation water and domestic water, only to find later that no water was provided or assured; and

WHEREAS; construction of proposed open ditches and canals and reservoirs in Hyde, Hand, Hughes, Beadle, and Sully Counties would result in certain land loss, impact, and cost to private land owners, school districts, and the county government; and

WHEREAS; it is important that all the people potentially involved in the counties mentioned be aware of all factual information before decisions are made any water project or projects;

THEREFORE; we the undersigned request and petition the Oahe Conservancy Subdistrict Board & County Commissioners to sponsor public meetings in the area to provide the public with factual information on the situation, with regard to land loss, wildlife migration, irrigation potential, federal soil requirements, payment obligations, and other matters. Further, the Oahe Project as authorized is not acceptable.

Name	Address	Date
Gay Olson	Highmore	1/14/81
Donald Olson	Highmore	1/14/81
Bernice Ellsworth	Stephens S.D.	1-20-81
Leonard Olson	Highmore S.D.	1-20-81
Jeff Ellsworth	Highmore S.D.	1-20-81
Wayne King	Highmore S.D.	1-20-81
Bob Hirsch	Highmore S.D.	1-21-81
X Bernice Brady	Res Heights	1-21-81
X Thelma Smith	Res Heights	1-21-81
Oliver A. Settles	Highmore S.D.	1-21-81
X Louise Smith	Highmore S.D.	1-22-81
Kenneth Wendel	Res Heights S.D.	1-23-81
X Catherine	Highmore S.D.	1-23-81
William B. Brown	Highmore S.D.	1/24/81

I swear that the persons listed above signed this petition in my presence.

William B. Brown
Name circulator
Highmore, S.D.
Address

Dated this 26th day of January, 1981.

PETITION

WHEREAS; in the past many promises were made that counties crossed by proposed Oahe canals would get irrigation water and domestic water, only to find later that no water was provided or assured; and

WHEREAS; construction of proposed open ditches and canals and reservoirs in Hyde, Hand, Hughes, Beadle, and Sully Counties would result in certain land loss, impact, and cost to private land owners, school districts, and the county government; and

WHEREAS; it is important that all the people potentially involved in the counties mentioned be aware of all factual information before decisions are made any water project or projects;

THEREFORE; we the undersigned request and petition The Oahe Conservancy Subdistrict Board & County Commissioners to sponsor public meetings in the area to provide the public with factual information on the situation, with regard to land loss, wildlife mitigation, irrigation potential, federal soil requirements, repayment obligations, and other matters. Further, the Oahe Project as authorized is not acceptable.

<u>Name</u>	<u>Address</u>	<u>Date</u>
Ernest E. Kahn	Kolabird, S.D.	1-16-81
Agnes L. Kahn	Kolabird S.D.	1-16-81
David Zhuskas	Harold, S.D.	1-16-81
Ladie Single	Kolabird, S.D.	1-17-81
Charles Single	Highmore S.D.	1-17-81
Paul Single	"	1-17-81
Ronald L. Riemann	Highmore, S.D.	1-17-81
Elroy Pothoff	Highmore S.D.	1-17-81
Boris Riemann	Highmore S.D.	1-17-81
Roger Wente	Highmore S.D.	1-17-81
Linda Wente	Highmore S.D.	1-17-81
Kyley Holter	Kolabird, S.D.	1-26-81
Larry Holter	Kolabird S.D.	1-26-81

I swear that the persons listed above signed this petition in my presence.

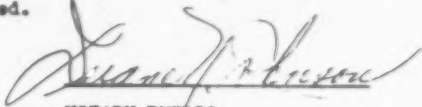
Kenny Simole
Name circulator

Kolabird S.D.
Address

Dated this 26 day of January, 1981.

STATE OF SOUTH DAKOTA,)
) ss.
 COUNTY OF HYDE)

On this 7th day of January, 1981, before me personally
 appeared Henry Single, to me known to be the person who executed
 the foregoing instrument, and acknowledged that he executed the
 same of his own free act, and deed.


 NOTARY PUBLIC

DUANE N. JOHNSON
 Notary Public, State of South Dakota
 My Commission Expires March 7, 1983

PETITION

WHEREAS; in the past many promises were made that counties crossed by proposed Oahe canals would get irrigation water and domestic water, only to find later that no water was provided or assured; and

WHEREAS; construction of proposed open ditches and canals and reservoirs in Hyde, Hand, Hughes, Beadon, and Sully Counties would result in certain land loss, impact, and cost to private land owners, school districts, and the county government; and

WHEREAS; it is important that all the people potentially involved in the counties mentioned be aware of all factual information before decisions are made on water project or projects;

THEREFORE; we the undersigned request and petition the Oahe Conservancy Subdistrict Board & County Commissioners to sponsor public meetings in the area to provide the public with factual information on the situation, with regard to land loss, wildlife mitigation, irrigation potential, federal soil requirements, repayment obligations, and other matters. Further, the Oahe Project as authorized is not acceptable.

Name	Address	Date
Donald Z. Zuberberg	Holabird	1/17/81
Harold Riddle	Holabird	1/17/81
Mary A. Riddle	Holabird	1/17/81
Ray Zuberberg	Holabird	1/17/81
Leahanne F. Smith	Highmore	1/17/81
X. A. P. Brown	Holabird	1-20-81
Leahanne Brown	Holabird	1/20/81
Andrew J. Brown	Holabird	1-20-81
Dagobert Brown	Holabird	1-20-81
Bruce Hocter	Holabird	1-20-81
Kenneth Singh	Holabird	1-20-81

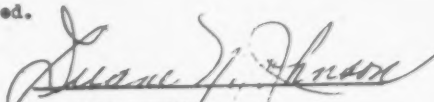
I swear that the persons listed above signed this petition in my presence.

Kenneth Singh
circulator
Kolabird A. Hocter
address

Dated this 26 day of January, 1981.

STATE OF SOUTH DAKOTA)
 ss.
COUNTY OF HYDE

On this ^{26th} day of *January*, 19 *81*, before me personally
appeared Henry Single, to me known to be the person who executed
the foregoing instrument, and acknowledged that he executed the
same of his own free act, and deed.


NOTARY PUBLIC

SUSAN J. JOHNSON
Notary Public, State of South Dakota
My Commission Expires March 7, 1988

September 21, 1981

Hon. Senator Frank Murkowski
Senate Water and Power Sub-Committee
3104 Dirksen Senate Office Building
Washington, D.C. 20510

Dear Sir

We are writing you in regard to the hearing you chaired in Pierre on September 12. We were unable to attend, but understand that you will still receive letters on the Abdnor Bill. We are of the firm opinion that nothing short of DE-AUTHORIZATION OF THE Oahe PROJECT should even be considered. The current project, CENODAF, is simply the Oahe Project under a different name and those proposing that project are doing the same thing as the Bureau of Reclamation people did with the Oahe Project- not listening even to the concerns and questions of the local land owner; putting out halftruths in regard to facts, labeling everyone that even questions their idea "anti-water".

It is our opinion if the "Bureau" would have been open and honest with the local people the Oahe Project could have been built with a PIPELINE, paid for and in use by now. Since your hearing, our Gov. Janklow has called a special session of the South Dakota Legislature to approve HIS PLAN for the TPSU Pipeline, using Missouri River Water to send coal slurry clear to Alabama. If they can use pipeline for that, why can't they use pipeline for 100 miles to the James River Basin. If you ask those Oahe Proponents that simple question, they will not even discuss it with facts. For this reason, we need to de-authorize the Oahe Project, and we urge your support to do so.

In regard to the CENDAK proposal, since your hearing the cost estimate has been released-double that of what they had originally proposed. The simple fact is that the local farmer cannot afford \$2500. an acre for irrigation with farm prices as they are now. The CENDAK proponents justify the cost estimate figures by saying more acres are signed up. I know for a fact in our area alone, some of those acres they are counting will never be irrigated for one of the following reasons: 1. The land is obviously not suited for irrigation 2. A number of people signed up 3 and 4 quarters; you do not have to be a college graduate to figure out that you cannot develop that much land at once in this area for irrigation unless you are a SUPER manager and believe me, these people are not!!

The CENDAK proponents also use the SHEWAN PROJECT at Pierre for an example. This is located right along the Missouri River. I know for a fact that insurance company money paid for the land, which is not locally owned, and that the SHEWAN PROJECT is for sale. No one from the local area will be able to purchase such a large project, therefore; it will be a large corporation or a foreign investor buying it. This is exactly the danger we see with the Oahe Project; the individual farmer being forced off the land by high production costs, high development costs, high taxes as a result of the project, and low farm prices. We need the support of the entire Congress to expand foreign markets for the products that we already raise. The American people must be made aware that right now, they can purchase food cheaper than in any other country in the world. Projects such as Oahe or Cendak will put a fast stop to that.

Sincerely

Milford & Gail Brock
 Milford and Gail Brock

Witchcock, South Dakota 57348



September 22, 1981

To: Honorable Senator Frank Murkowski, Chairman
Senate Subcommittee on Water & Power

From: Alan R. Bender

Re: Written statement for inclusion in record of field hearings
on S.1553 held in Pierre, SD, September 12, 1981.

Chairman Murkowski:

I would request the enclosed interim draft report be included
in the written testimony to support the CENUAK testimony presented
September 12.

Sincerely yours,

Alan R. Bender

Alan R. Bender
Water Resources Institute

ARB:ckb
Enclosure



September 22, 1981

To: CENDAK Steering Committee
Dave Hauschild, Chairman

From: Alan R. Bender *ARB*

Re: Interim draft report on preliminary appraisal of east central
South Dakota soils for irrigation development

This interim report has been prepared for the CENDAK steering committee. The CENDAK organization has provided the funds derived from member assessments to pay for the field collection and lab analysis of undisturbed cores used in this appraisal.

In addition to the new data derived from the field investigations, a large amount of raw data from previous investigations by the BOR, SCS, and the SDGS was used to supplement and verify the data. The conclusions reached at this point are preliminary and refinements can be expected as a more systematic analysis of the several data sources is completed.

The area considered in this interim draft is restricted to the counties of the "CENDAK area". The professional personnel involved in this project are funded in part by grant no. 14-34-0001-1144 provided by the Office of Water Research and Technology. The Water Resources Institute wishes to thank the organizations providing the funding so this important research problem area can be addressed.

I wish to express my personal gratitude to all who have had a part in the project thus far and especially to Don Faulstich, Dave Hauschild and Jim Lewis, with whom I have had numerous contacts throughout my work on the project. In addition the cooperation of the land owners and the DOT who provided the drill rig and operator for the core sampling has been essential to the successful completion of the field investigation.

ARB:ckb

cc: Senator J. Abdnor
Senate Subcommittee on Water and Power

Water Resources Institute/South Dakota State University/Brookings, SD 57007/605 688-4910

INTERIM DRAFT REPORT
ON PRELIMINARY APPRAISAL OF EAST CENTRAL
SOUTH DAKOTA SOILS FOR IRRIGATION DEVELOPMENT

by

Alan R. Bender
C. G. Carlson
L. O. Fine

September 1981

Relevance of Research:

The Pick-Sloan Plan for water resource development in the Missouri River Basin resulted in the construction of four major dams within the state of South Dakota and one each in North Dakota and Montana. The construction of these dams has created four large reservoirs, Oahe, Sharpe, Francis Case, and Lewis and Clark in South Dakota. The Bureau of Reclamation carried out studies of the Oahe Unit; the initial stage was designed to irrigate 190,000 acres on the James River Lake Plain. Delivery canals were planned to traverse the Missouri slope, land between the Lake Plain and the Missouri River Lakes (Figure 1). The proposed routes of the Pierre and Highmore Canals are very favorable because of the relatively low lifts required for delivery of water. Furthermore, an additional 305,000 acres of a portion of the Missouri Slope have been identified by the Bureau as potentially irrigable.

Although the pumping plant and the initial construction of the Pierre Canal was begun on May 16, 1974, construction was discontinued before project completion. At present, deauthorization of the Oahe Unit would seem likely. This still leaves the water resources of the Missouri Mainstem Reservoirs within South Dakota relatively undeveloped. Proposed alternatives to the original plan such as the CENDAK project would consider irrigation on the Missouri Slope and in Hughes, Hyde, Hand and Beadle counties.

Preliminary investigations have been made by the Bureau of Reclamation on major portions of these lands, but much of the CENDAK lands were considered unsuitable and marginal under economic criteria based primarily upon costs of providing irrigation with supplemental drainage. The drainage requirements of irrigated lands are lessened when application

is made by sprinkler irrigation machines; however, a knowledge of sub-root zone water storage and movement is required to evaluate the danger of water table buildup and associated salinity problems.

To date, ground water has been the major source of irrigation water in South Dakota. The Missouri River, with a flow of approximately 23 million acre feet/year, is our greatest undeveloped natural resource.

The topography of land east of the Missouri in Hughes, Hyde, Hand, and Beadle counties is nearly ideal for irrigation development. A lift of less than 200 feet would be required to transport water from the Missouri River trench. From there a large portion of the above-mentioned counties in central South Dakota can be serviced with essentially no more water lifts.

Scattered irrigation, using ground water, is ongoing on some of these proposed lands. Although most of this development has occurred using ground water of questionable quality, very few significant salt problems have occurred. We believe that the effective root zones of many of these isolated fields do experience adequate internal drainage, as exhibited by the absence of significant root-zone salinity levels despite the poor irrigation water quality. However, the question remains: will the subsoil and subsurface geological formations be capable of transmitting the two to five additional inches of drainage water that may result from large scale irrigation development? Although water table buildup does not seem to occur when isolated acreages are brought under irrigation, this may not remain true when large contiguous land area irrigation takes place. Water table levels have not been monitored. Absence of water table buildup has been inferred from soil profile salinity data.

Related Research:

The areas in question have been evaluated by the Bureau of Reclamation at various levels of detail. Much of this land is considered arable but not feasible for irrigation because of the difficulties in providing supplemental drainage. The Bureau criteria used for these determinations are:

"Lands which have a barrier depth of less than 6 feet, or a weighted permeability of less than 0.3 inch per hour, will be delineated and considered nonirrigable. The barrier, as referred to above, constitutes any soil condition which will prevent the gravitational ground water from moving out of the root zone in a 48-hour period, or any layer below the drain depth which has a permeability value of less than 20 percent of the weighted permeability of the layers above it.

The weighted permeability, which is considered a reasonable estimate of the lateral movement of water through the soil, will be computed using the thickness and permeability of each soil texture from the bottom of root zone to the barrier."¹

These criteria eliminated much of the arable land from further study because of a shallow barrier layer. Although many holes have been put down to the impermeable Pierre shale, no systematic attempt has been made in these investigations to determine the hydrologic characteristics of the glacial till substrata.

A limited number of pump-out auger-hole tests were made by the Bureau of Reclamation in areas where the ground water table was found at shallow depths. These tests were not included in the summary but it is interesting that they indicated hydraulic conductivities well above the rates of similar materials in comparison to pump-in tests.

¹Definite Plan Report on Tower, Greenwood, and Yankton Units, South Dakota Pumping Division, South Dakota Missouri River Basin Project, Appendix F--Drainage, September 1963.

The pump-in tests taken at the 10-12 ft depth in clay loam till had average permeabilities of .005 iph. Even this "worst case" condition would permit a large amount of water to move into the sub-root zone strata (approximately 1 inch in 10 days). Lateral movement in the substrata must be sufficient to prevent water table buildup under sustained irrigation.

Irrigation development within eastern South Dakota has depended mainly upon ground water as a supply source. Many of the glacial aquifers have salinity and/or sodium levels which make them marginal for irrigation. The state of South Dakota requires a soil/water capability evaluation to be made before award of an irrigation permit, and research at the South Dakota Water Resources Research Institute supports the monitoring program carried on by the state Division of Conservation.

On the basis of data from the monitoring program, Carlson, et al, (1981) concluded that although internal drainage has not been specifically included in their analysis, the presence of a salinity hazard would indicate drainage problems. Except in isolated cases, salinity has not been found to be a problem, isolated cases which have occurred are specific ion related and are associated with water quality supplies which would not meet present South Dakota standards. Thus, drainage via the clay substrata must be leaching the salts from these soils.

Glacial Aquifers:

The Tulare aquifer is the main source of hydraulically connected aquifer material in the CENDAK area. This aquifer slopes to the east and south, and provides lateral drainage field for the areas in which it is located. Investigations by the USGS illustrate the Tulare extends

across Beadle and Spink counties to the James River Trench. The potentiometric surface slopes generally to the east beginning in range 69W and 70W (Figure 2).

Other aquifers made up of outwash materials are located in other areas of Hyde and Hand counties (Figure 3). These aquifers have a close hydraulic connection to the stream with which they are associated. These characteristics may make the Elm Creek and Highmore aquifers important for irrigation development; however the geographic location and areal extent make them relatively unimportant for the proposed CENDAK delivery system.

These glacial aquifers are contained in and/or overlain by glacial till. The glacial till collected during the core sampling ranged in texture (by field estimates) from loams to silty clay loams with pebbles. Water movement through the till is generally restricted but limited aquifer recharge is possible by movement through the till.

In Hyde County, evidence of hydraulic connection between the Tulare and Bad-Cheyenne River Aquifers exists. This connection permits subsurface outflow to the west from about range 71W or 72W. The transmissivity of the aquifer materials would place a limit on the lateral outflow. Local hydraulic connections between the aquifers and the surface drainage system are known to exist although quantitative evaluations of this subsurface outflow has not been evaluated.

Research Procedures:

The general area of investigation is a glaciated region. The till deposited in the areas is differentiated by three stages--the Iowa, Cary and Mankato (Figure 4). Undisturbed core samples were obtained in representative areas which have soils and topography suitable for irrigation.

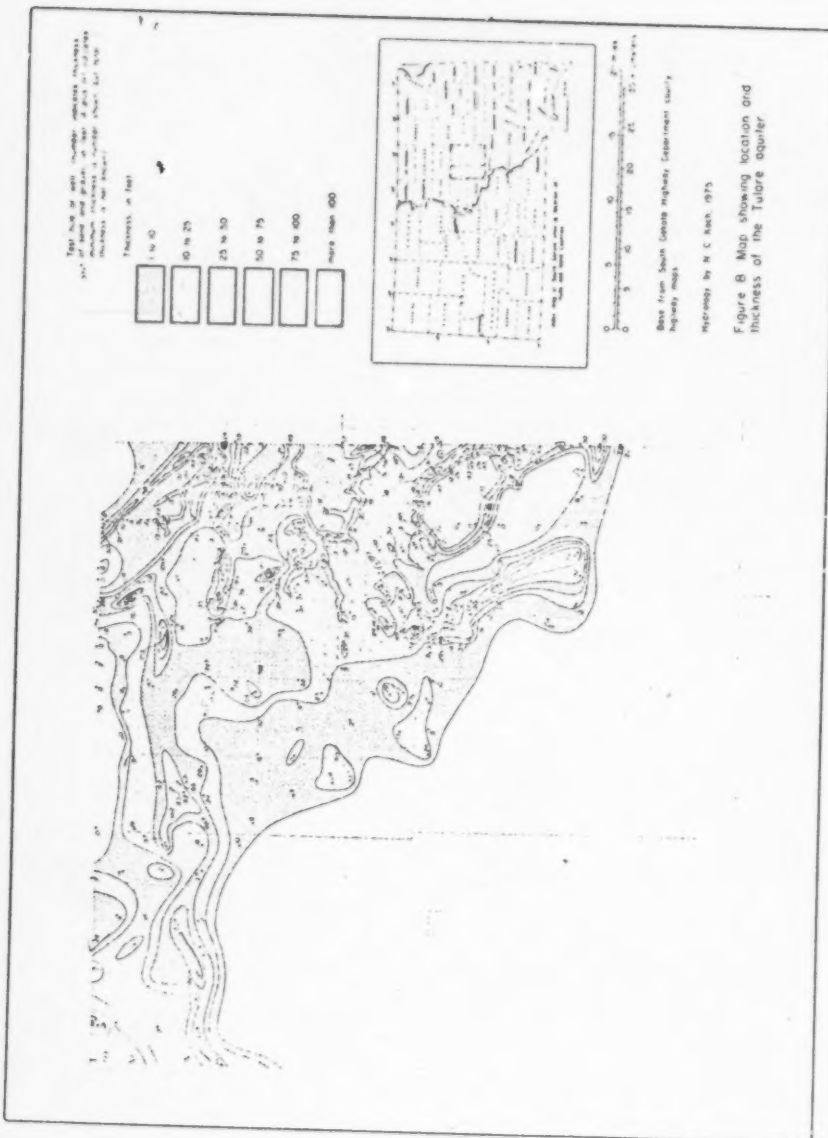


Figure 2

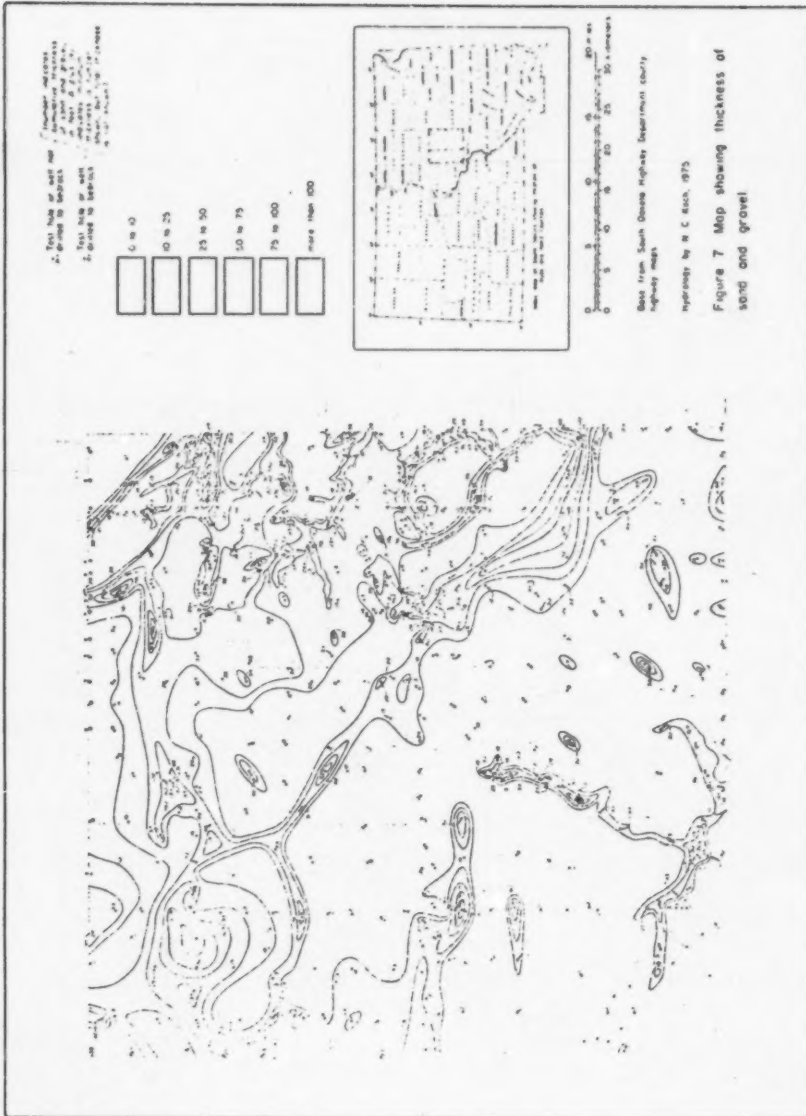


Figure 3

SOIL PARENT MATERIALS EASTERN SOUTH DAKOTA



- Qa Alluvium
- Ql Lake Basin - silts, clays, sands
- Qm Mankato drift - loam till
- Qc Cary drift - loam till, patchy loess
- Qt Tazewell drift - till and thin loess
- Qi Iowa drift - thick loess in south, thin loess
over loam till in north
- Kp Pierre Shale

Source : Geological Survey Professional Paper 262, U.S.G.S.

Figure 4

Field operations were carried out during the period June 29, 1981 through July 23, 1981. Forty holes were bored ranging from 17 to 42' with most holes bored to 30' (Figure 5). These holes were augered to the level at which the undisturbed sample was desired. A "Shelby" type split spoon sampler with brass cannisters to accept the undisturbed soil core was pushed into the cleaned hole at the desired sample depth. Undisturbed cores were normally collected at 5' interval depths, depending on the materials encountered.

The undisturbed cores were sealed in the brass cannisters and transported to the lab for analysis. In the lab, insitu gravimetric moisture content, saturated gravimetric moisture content, bulk density, and saturated hydraulic conductivity were determined.

The saturated hydraulic conductivity was determined by placing the undisturbed soil samples in a closed Tempe cell and applying a constant head of water. Water with a conductivity of 4 mmho was used in these determinations. This salinity would be near that of water leaching from the effective root zone.

Data:

The locations of the boring holes are presented in the following table and are plotted on Figure 5. The locations were chosen to represent the area in question. Correlations between the soils information has not been completed at this point but the Bureau of Reclamation category I & II lands which have been classified as drainable are presented in Figure 6.

The data presented in Figure 7 shows the depth at which the first sand or gravel layer was encountered. The till all contains pebbles of various sizes but this has not been considered as a sand or gravel

TABLE 1
CENSAK DRILLING LOCATIONS

County	Legal Description town*range*sec	Boring Number
Hughes	111N77W17da	1
Hughes	111N77W17d	2
Hughes	111N77W17dc	3
Hughes	111N79W13bc	4
Hughes	111N79W13bc	5
Hughes	111N79W13dd	7
Hughes	111N79W13aa	6
Hughes	111N78W08aa	8
Hughes	111N78W09bab	9
Hughes	111N78W08ab	10
Hughes	111N78W36a	11
Hughes	112N75W02c	12
Hughes	112N75W02bbs	13
Hughes	112N75W03aba	14
Hughes	112N75W17ccc	15
Hughes	112N75W29bb	16
Hyde	113N72W36abb	17
Hyde	114N71W08aaa	18
Hyde	113N72W25dcc	19
Hyde	114N71W08abb	20
Hyde	113N73W24ccc	21
Hyde	113N73W24cbb	22
Hyde	116N73W13aa	23
Hyde	116N73W13cbb	24
Hyde	115N72W13dcc	25
Hyde	115N72W13aad	26
Hyde	112N72W25bb	27
Hand	112N69W24cdc	28
Hand	112N68W30aaa	29
Hand	112N68W18	30
Hand	111N67W30bbc	31
Hand	111N67W02bcc	32
Hand	111N67W04ddd	33
Hand	113N67W16ddd	34
Hand	113N67W27cbb	35
Hand	113N69W24ddd	36
Hand	113N69W13add	37
Hand	116N67W34ddd	38
Hand	116N67W34aaa	39
Hand	116N68W36cdd	40

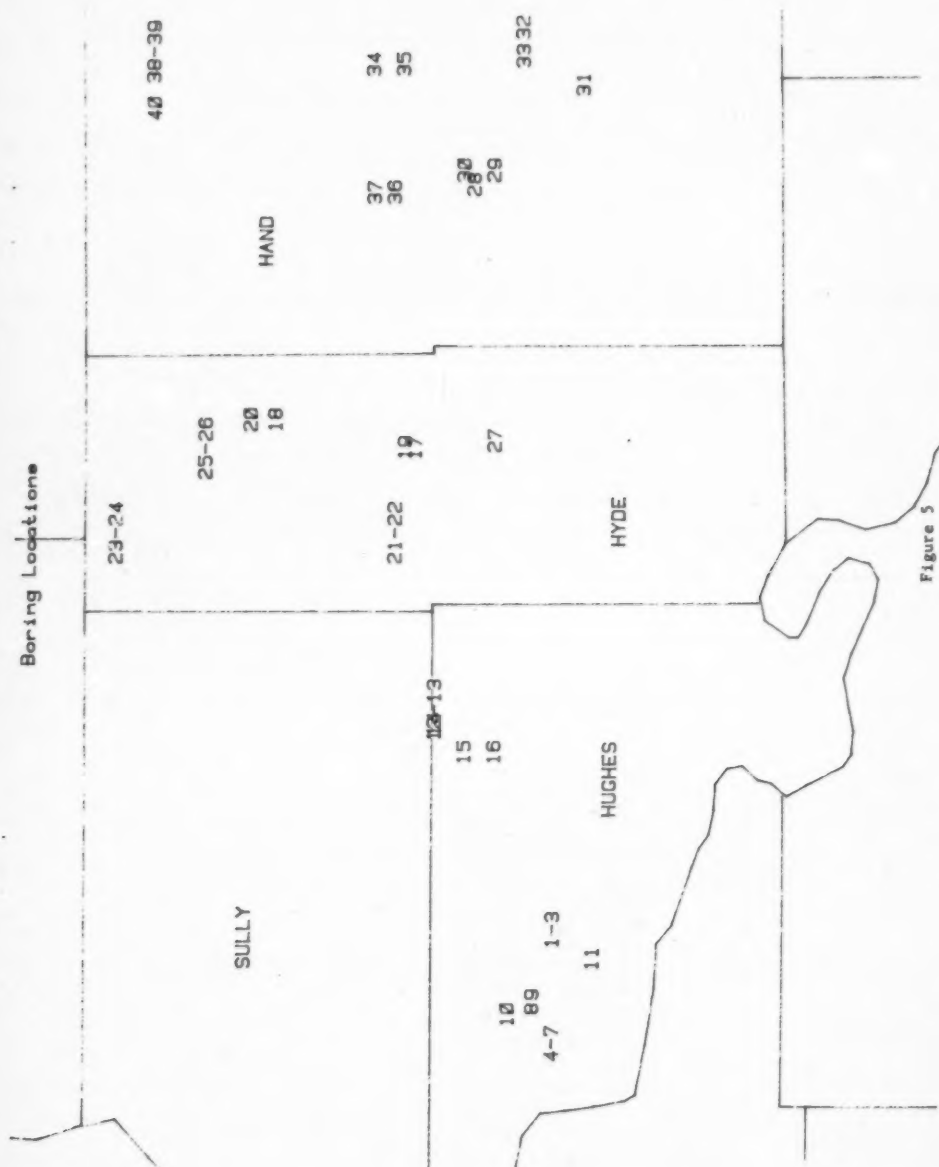


Figure 5

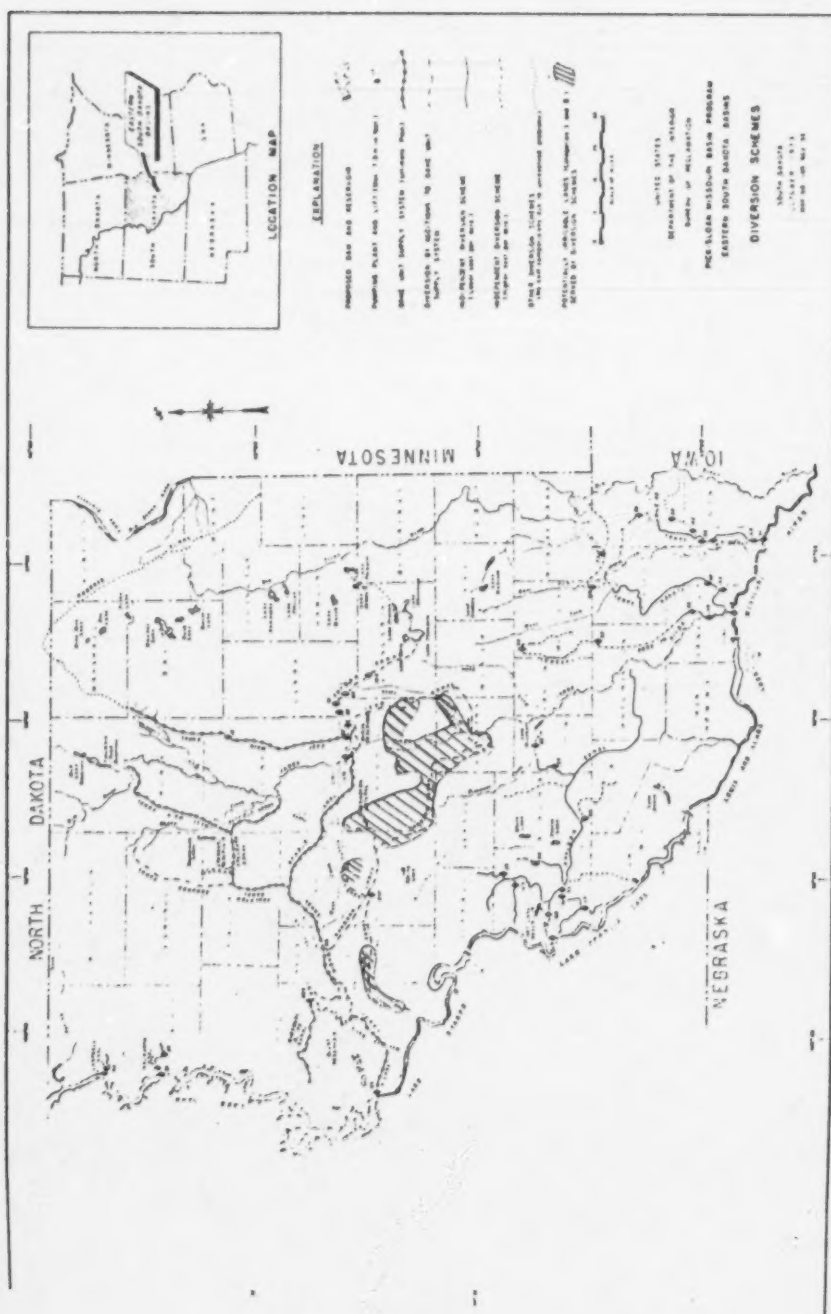
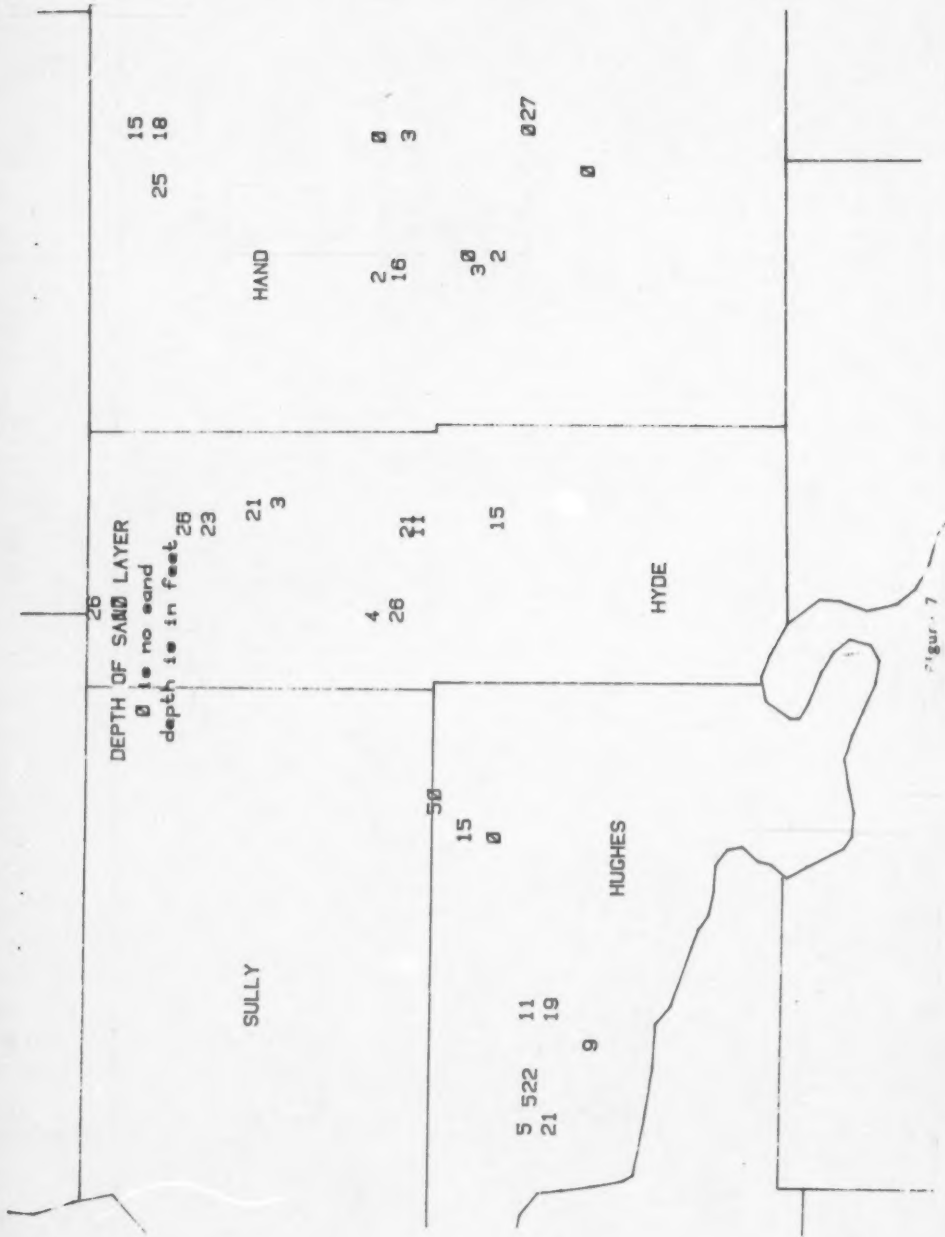
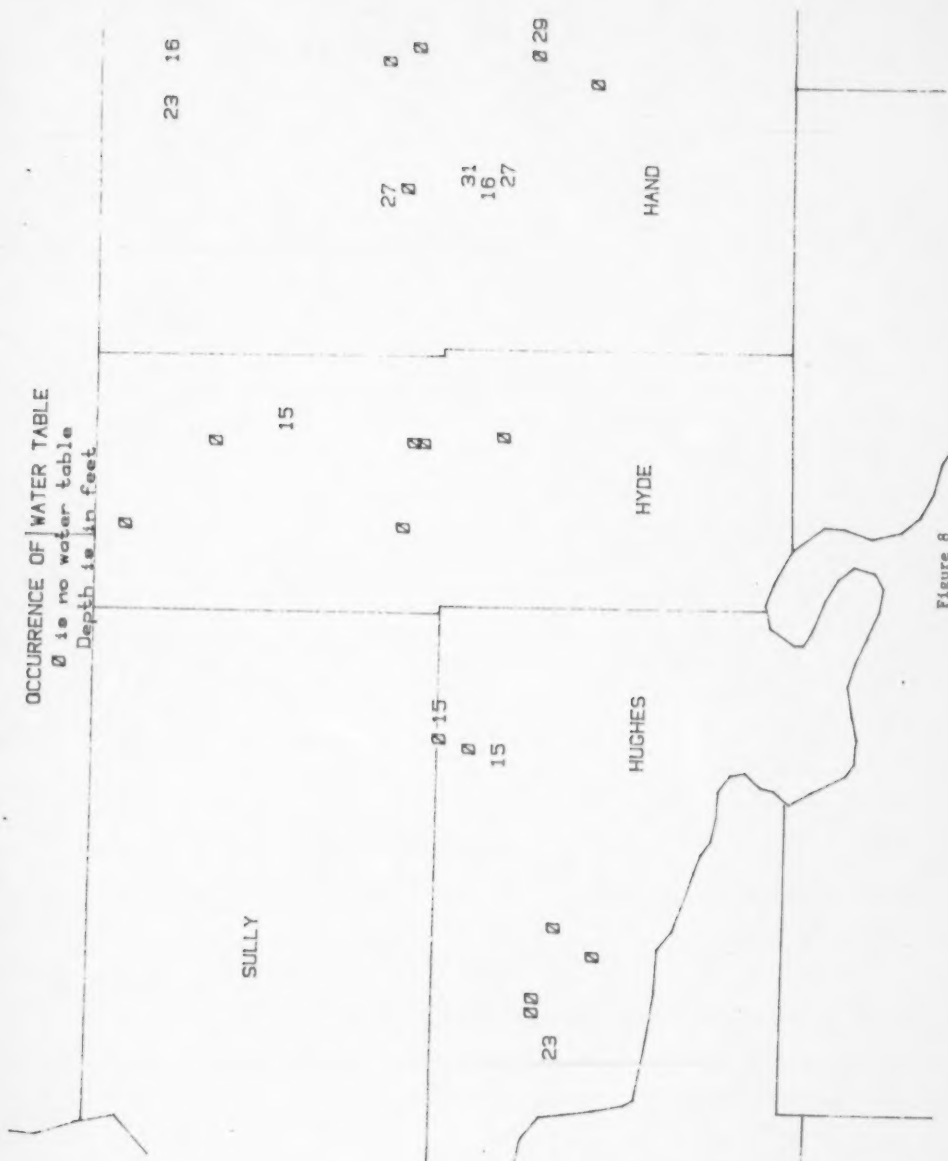


Figure 6





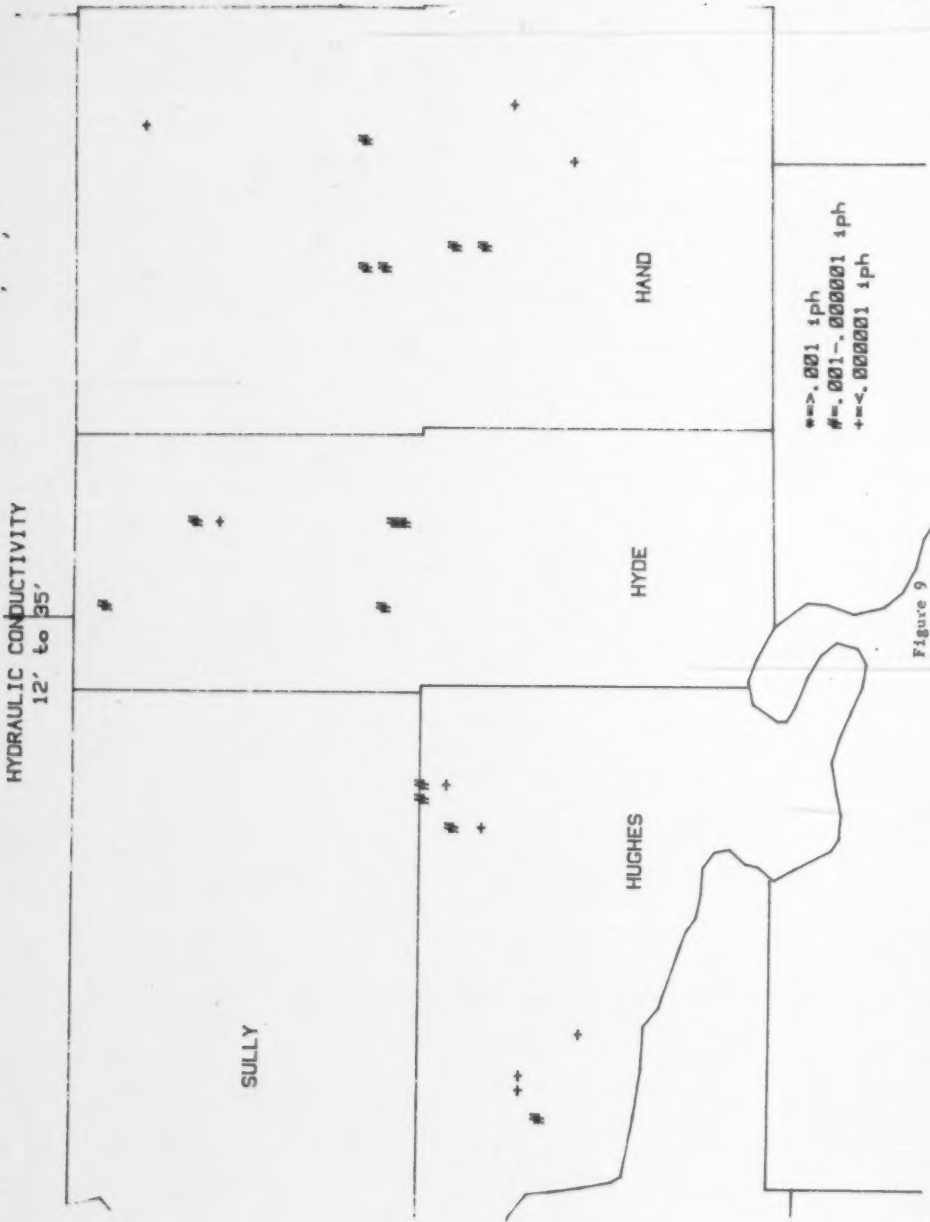


Figure 9

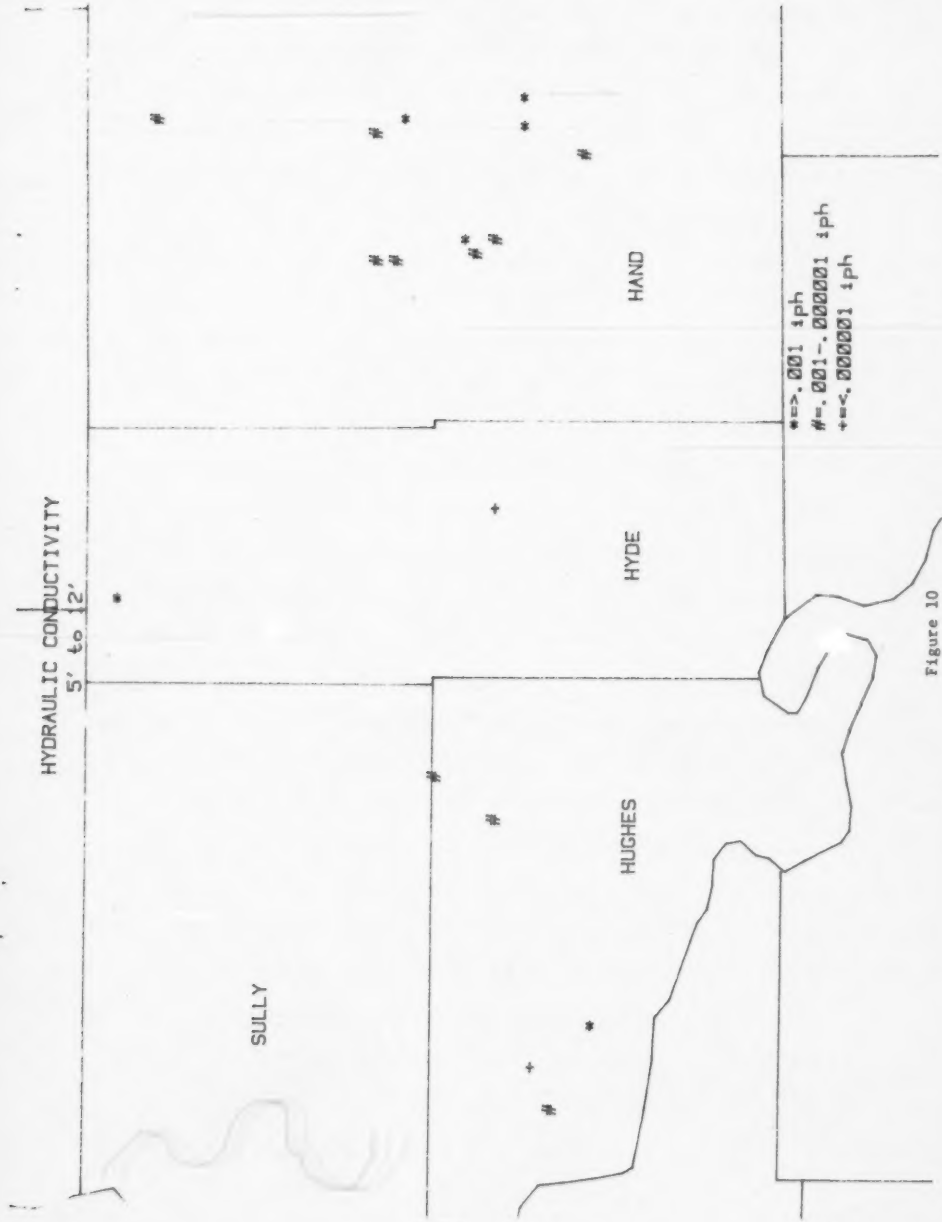


Figure 10

Discussion:

The primary emphasis in this interim report is the hydraulic characteristics of the sub-root zone strata. The lands classified by the Bureau of Reclamation as category I & II has been accepted as artificially drainable and are considered "slight risk" because of the potential for horizontal movement as well as vertical movement.

Irrigation can be instituted on these lands. However, attention should be paid to monitoring the water tables, and if a buildup of water table is found to be occurring a deferred drainage system should be installed to relieve the problem. Whereas the Oahe proposal utilized gravity irrigation, present technology and irrigation practice indicate that new irrigation development within CENDAK lands will either be sprinkler irrigation or possibly dead level gravity. Both of these systems will be far more water efficient than gravity slope systems. Thus the leaching that occurs will probably be less than 10% of water input. With these low leaching fractions the problem of water table buildup is far less than previously assumed by the Bureau of Reclamation.

Lands which have limited risk of water table buildup must be considered as marginally suitable for contiguous irrigation development. Thought should be given to limiting the development to 10-15% of the area and a monitoring program established to evaluate the potential for expanding development.

Those areas which can be artificially drained can be developed more intensively and hold the best prospects for early development.

Water table buildup can result from exceeding the capacity of the soil profile to rid itself of excess water. Soil water is lost either by evapotranspiration or by deep percolation.

Irrigation water contains dissolved solids which are left behind as the water is lost through the evapotranspiration process. The buildup of soil salinity caused by the salts must be controlled by leaching the salts by deep percolation. This requires excess irrigation water or off-season precipitation and sufficient hydraulic conductivity of the sub-root zone strata to permit the water to be leached below the root zone.

The hydraulic conductivity of the substrata places a limit on the amount of leaching which can take place. In like manner the leaching fraction determines the amount of salt, i.e. irrigation water, which can be applied without crop yield reduction because of soil salinity.

Sprinkler irrigation and water management strategies which limit the water application rates and volumes to levels which result in acceptable soil moisture levels are available. The natural limitations of the soil profile and the substrata must be known to prescribe a suitable management strategy which avoids water table buildup.

An important point needing consideration is the possibility of salt buildup using these low leaching fractions. Experimental data of the last decade indicates that if the top portion of the soil profile is maintained at low salinity levels, crop production will not be significantly impaired. This has been the case found in much of South Dakota where most of the irrigated soils being studied are being irrigated with water far more saline than Missouri River water. Even with these saline irrigation waters there are only a few instances where soil salinity per se is causing problems. This is not the case with respect to the sodium ion and soil dispersion--a discrete facet of the problem limited to high sodium waters. However, Missouri River water carries quite low

levels of sodium and this, we do not believe, will be of any significance on CENDAK lands.

Analysis of well log data indicates that shallow water tables were seldom found in the project land. This indicates that subsurface drainage must be occurring since there are obvious periods in recent history when precipitation greatly exceeded E.T., resulting in soil water flux below the soil effective root zone.

Bulk density and porosity measurements from the project lands fall within acceptable levels and indicate a more optimistic view of internal drainage potential than did the undisturbed K measurements. The presence of the sand lens in the glacial till supports the optimistic view of these lands. Undisturbed cores of sandy layers were not collected but the presence of sand has been noted. These layers permit faster movement through the till.

Conclusions and Recommendations:

A considerable portion of the proposed CENDAK project land is permeable enough to be artificially drainable. Extensive development could take place on this land in the early stages of project implementation. It is worth noting that ground water irrigation is being developed in this area at this time; thus, a significant skill level is developing among farm operators. Deferred drainage may be necessary in limited areas within 5 to 20 years and this possibility should be recognized. The lands classified as category I & II by the Bureau of Reclamation are included in the "slight risk" group and are located primarily in eastern Hand and western Beadle counties (Figure 8).

The land areas of "limited risk" are those lands which are underlain by glacial aquifers, in this case primarily the Tulare aquifer. Hydraulic conductivity measurements obtained in the area of northern

Hyde and Hand counties are sufficient to permit leaching and the aquifer appears to be a dynamic system which is removing water from the area. Lands which do not have a water table and are underlain by the glacial aquifer could support initial development of 20-30% of the total area. A limited amount of monitoring should accompany this irrigation development with increasing development commencing after about five years if no significant water mounding is occurring. Again, drainage or pumping of the aquifer may be a future necessity in 5 to 20 years after initial development.

Land areas outside of the two considered above are much less consistent in hydraulic characteristics and must be considered to have questionable sub-surface drainage. These lands should be handled conservatively and should be approached with an investigative attitude.

Irrigation development should be limited to 10-15% of this area. The feasibility of further development should be based on an extensive monitoring program of the initial development as the value of additional pre-irrigation study is questionable. If water tables build up and significant mounding is apparent, it is obvious that contiguous development should not be attempted since artificial drainage is not economically feasible.

It is possible with present technology to intensively manage irrigation applications such that limited amounts of water are leached from the root zone. The application of this level of irrigation management must be considered an integral part of project assessment. Measures to insure consistent management such as educational and monitoring programs should be part of any implementation plan.

These same principles should extend beyond field water application

to system considerations. Unlined ditches are an attractive engineering option, but the effects of these unlined channels may be deleterious to long term project success. While it is true that the tight soils in Hyde and Hand counties would not allow a large amount of leakage, the effects of a rising water table should be carefully evaluated. Alleviating the problem in slowly permeable soils would take several years and a careful monitoring program may be necessary for proper evaluation of the risks implied herein. Potential exists on these lands for irrigation project development. However the knowledge gained from previous projects must be utilized in a planned approach to development. Careful integration of the state of the art technology, technical consultation, and informed irrigation practitioners would reduce the risk of unforeseen and unacceptable problems to predictable and manageable levels.

APPENDIX

What does the hydraulic conductivity (K) measurement mean?

If we wanted to move 1 cm^3 of water a distance of 1 cm deep across an area of 1 cm square and we had 1 meter deep of water ponded on top of this soil.

if $K = 10^{-3} \text{ cm/hr}$ we could accomplish the above in 10 hours

if $K = 10^{-6} \text{ cm/hr}$ we could accomplish the above in 416 days.

thus near the soil surface, 0 to 2 feet, a K of 10^{-3} cm/hr is unacceptably low but 10 feet below the surface we can accept a 1 meter deep (about 3 feet) water table. Since our drainage under sprinkler irrigation will amount to between 1 to 10 cm (.4 to 4 inches) a K of about 10^{-5} is our lower acceptable limit. Below 30 feet K's of about 10^{-6} may be acceptable although certainly not desirable.

It should be noted that hydraulic conductivity takes into consideration the head (in our case 1 meter deep) and should not be confused with infiltration capacity. (At the surface during a rain the head on the soil can be as little as .1 cm or even less.)

Darcy equation defines K

$$\frac{Q}{At} = -K \frac{dh}{dz} \text{ where } Q = \text{quantity (cm}^3\text{)}, K = \text{hydraulic K (cm/hr)}, \\ A = \text{Area (cm}^2\text{)}, dh = \text{change in head (cm)}, t = \text{time (hours)}, dz = \text{change in distance (cm)}$$

*1 inch = 2.54 cm

WATER TABLE IN BORINGS FOR CENDAK AREA

Hole	
5	Water table at 14', probably drainage from swine watering area within 30 yd.
7	Saturated sand at 23' and 25'.
13	3" saturated layer at 15 1/2, water below probably draining in
16	wt at 15' sandy clay layer
18	wet sand 3-15' saturated at 15
20	wt at 31' gravel
28	wt at 16' sandy clay loam
29	wt at 27'
30	wt at 31'
32	wt at 29'
37	wt at 27'
38	wt at 18'
39	wt at 16'
40	wt at 23' caved at 21'

***** CENDAK boring data -----

This data was derived from undisturbed cores collected from the bored holes. Where \$\$\$\$ appear, data was not run or analysis was not possible.

Abbreviations used: T-township; R-range; S-section;

% moisture-insitu gravimetric moisture

sat %-saturated gravimetric moisture

B.D.-bulk density; H.C.-saturated

hydraulic conductivity; inh-inches per hour

All distances in feet below surface

Co.HU boring1

T 111N R 77W S 17da

sand at11 1.00thick

depth	% moist	sat %	B.D.	H.C.-inh
6	13.7	\$\$\$\$	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$	
12	11.5	\$\$\$\$	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$	

Co.HU boring2

T 111N R 77W S 17d

sand at19 3.00thick

depth	% moist	sat %	B.D.	H.C.-inh
7	18.0	\$\$\$\$	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$	
6	14.2	\$\$\$\$	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$	
15	14.4	\$\$\$\$	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$	
20	12.4	\$\$\$\$	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$	
24	12.2	\$\$\$\$	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$	

Co.HU boring3

T 111N R 77W S 17dc

sand at19 3.00thick

depth	% moist	sat %	B.D.	H.C.-inh
6	13.7	\$\$\$\$	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$	
16	12.6	\$\$\$\$	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$	
30	22.0	\$\$\$\$	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$	
20	20.7	\$\$\$\$	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$	
10	14.8	\$\$\$\$	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$	

Co.HU boring4
 T 111N P 79W S 13bc
 sand at0 0.00thick
 depth % moist sat % B.D. H.C.-iph
 15 19.4 \$\$\$\$ \$\$\$\$\$\$\$\$\$\$\$\$\$\$

Co.HU boring5
 T 111N R 79W S 13bc
 sand at5 1.00thick
 depth % moist sat % B.D. H.C.-iph
 5 6.3 \$\$\$\$ \$\$\$\$\$\$\$\$\$\$\$\$\$\$
 10 18.8 \$\$\$\$ \$\$\$\$\$\$\$\$\$\$\$\$\$\$

Co.HU boring6
 T 111N R 79W S 13aa
 sand at21 0.00thick
 depth % moist sat % B.D. H.C.-iph
 30 21.6 25.7 1.63 0.000565
 7 14.5 \$\$\$\$ \$\$\$\$\$\$\$\$\$\$\$\$\$\$
 20 23.4 \$\$\$\$ \$\$\$\$\$\$\$\$\$\$\$\$\$\$
 21 6.6 7.0 2.00 0.000000
 27 18.1 \$\$\$\$ \$\$\$\$\$\$\$\$\$\$\$\$\$\$

Co.HU boring7
 T 111N R 79W S 13dd
 sand at6. 0.00thick
 depth % moist sat % B.D. H.C.-iph
 13 33.7 33.6 1.57 0.0000202
 25 30.7 31.9 1.59 0.0000072
 17 38.7 40.0 1.43 0.0000202
 10 9.6 \$\$\$\$ \$\$\$\$\$\$\$\$\$\$\$\$\$\$
 36 27.9 \$\$\$\$ \$\$\$\$\$\$\$\$\$\$\$\$\$\$
 10 10.0 \$\$\$\$ \$\$\$\$\$\$\$\$\$\$\$\$\$\$

Co.HU boring8
 T 111N R 78W S 08aa
 sand at5 2.00thick
 depth % moist sat % B.D. H.C.-iph
 24 20.1 \$\$\$\$ \$\$\$\$\$\$\$\$\$\$\$\$\$\$
 30 8.5 9.3 2.08 0.0000000
 20 20.9 22.4 1.83 0.0000009

Co.HU boring9

T 111N R 78W S 09bab

sand at22 0.00thick

depth	% moist	sat %	B.D.	H.C.-inh
10	9.3	10.3	1.99	0.0000000
30	20.2	\$\$\$	\$\$\$\$\$\$\$\$\$\$\$\$	

Co.HU boring10

T 111N R 78W S 08ab

sand at10 3.00thick

depth	% moist	sat %	B.D.	H.C.-inh
5	10.6	\$\$\$	\$\$\$\$\$\$\$\$\$\$\$\$	
5	10.6	\$\$\$	\$\$\$\$\$\$\$\$\$\$\$\$	

Co.HU boring11

T 111N R 78W S 36a

sand at9 1.00thick

depth	% moist	sat %	B.D.	H.C.-inh
5	19.8	19.2	1.71	0.0419025
10	15.8	\$\$\$	\$\$\$\$\$\$\$\$\$\$\$\$	
16	7.9	8.2	1.99	0.0000000
20	21.5	23.8	1.76	0.0000948
41	3.9	5.1	2.16	0.0000000
\$\$\$	18.0	\$\$\$	\$\$\$\$\$\$\$\$\$\$\$\$	

Co.HU boring12

T 112N R 75W S 02c

sand at0 0.00thick

depth	% moist	sat %	B.D.	H.C.-inh
16	22.8	23.6	1.80	0.0000124
11	21.1	21.9	1.85	0.0000000
20	20.9	23.7	1.77	0.0031408
5	13.6	\$\$\$	\$\$\$\$\$\$\$\$\$\$\$\$	
10	20.0	\$\$\$	\$\$\$\$\$\$\$\$\$\$\$\$	
32	21.4	22.4	1.85	0.0000064
11	21.4	22.9	1.91	0.0000189
6	21.7	24.7	1.76	0.0001679

Co.HU boring13

T 112N R 75W S 02bbh

sand at0 0.00thick

depth	% moist	sat %	B.D.	H.C.-inh
31	22.4	23.6	1.32	0.0000313
16	24.4	25.0	1.76	0.0000096
21	21.3	22.5	1.83	0.0000000

So. HU	boring14	P 112N	R 75N	S 03ana	0.00thick
depth	moist	sat	W.D.	W.C.-ion	
17	25.1	25.7	1.71	0.0001110	
26	20.0	22.2	1.81	0.0009415	
32	21.5	22.2	1.34	0.0000016	
7	21.5	\$\$\$	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$		
29	23.6	\$\$\$	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$		

Co.HU	boring15	T 112N R 75W S 17ccc	sand at15	2.00thick	depth	% moist	sat %	G.D.	U.C.-ish
11	25.2	25.1	1.72	0.1860480					
21	22.5	23.7	1.82	0.000038					
31	14.9	16.0	2.50	0.0000071					
26	18.3	18.6	1.96	0.0000648					
7	22.7	24.3	1.30	0.0000038					

Co. HU	boring16		S	29bb	0.00thick	
P	112N	R	75W			
and at)						
depth	% moist	sat %		B.D.	U.C.-ion	
7	22.7	24.4		1.77	0.000095	
31	16.4	16.9		2.56	0.000068	
11	26.0	\$\$\$		\$\$\$\$\$\$\$\$\$		
12	24.5	25.3		1.75	0.000036	
15	23.1	24.1		1.80	0.000048	

Co. HY	boring	17					
113%	R	72W	S	36ab			
sand	at	all		1.00	thick		
leath							
21		22.8		22.1		R.D.	I.C.-inh
31		16.9		17.0		2.06	0.0000011
17		20.8		21.3		1.93	0.0000252
6		17.9		\$\$\$		\$\$\$\$\$	\$\$\$\$\$
26		17.5		18.2		2.08	0.0000398

Co. HY	boring18				
F	114N	R	71W	S	08aaa
band at					12.00thick
depth	ft	moist	sat	ft	d.C.-in
5	7.8	\$\$\$			\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$
15	27.7	\$\$\$			\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$
20	30.4	\$\$\$			\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$
18	28.6	\$\$\$			\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$

Co.HY boring19
T 113N R 72W S 25dce
sand at21 5.00thick
depth % moist sat % B.D. H.C.-ion
31 18.1 18.2 1.98 0.0000033
21 17.4 18.0 2.05 0.0000094
16 16.6 16.8 2.11 0.0000098
26 18.7 18.7 2.00 0.0000120
6 15.5 \$\$\$\$ \$\$\$\$\$\$

Co.HY boring20
T 114N R 71W S 08abb
sand at21 1.00thick
depth % moist sat % B.D. H.C.-ion
10 16.2 \$\$\$\$ \$\$\$\$\$\$
15 28.2 \$\$\$\$ \$\$\$\$\$\$
21 23.2 \$\$\$\$ \$\$\$\$\$\$
30 20.9 \$\$\$\$ \$\$\$\$\$\$
33 25.3 \$\$\$\$ \$\$\$\$\$\$

Co.HY boring21
T 113N R 73W S 24ccc
sand at26 1.00thick
depth % moist sat % B.D. H.C.-ion
21 16.7 17.5 2.08 0.0001204
31 15.9 18.7 2.02 0.0000056
6 10.0 \$\$\$\$ \$\$\$\$\$\$
11 11.5 \$\$\$\$ \$\$\$\$\$\$
16 14.1 \$\$\$\$ \$\$\$\$\$\$
26 14.7 17.4 2.06 0.0001679

Co.HY boring22
T 113N R 73W S 24cbb
sand at4 4.00thick
depth % moist sat % B.D. H.C.-ion
21 21.7 23.4 1.79 0.0000181
26 20.3 21.4 1.86 0.0000352
6 11.4 \$\$\$\$ \$\$\$\$\$\$
10 7.2 \$\$\$\$ \$\$\$\$\$\$

Co.HY boring23
T 116N R 73W S 13aa
sand at17 1.00thick
depth % moist sat % B.D. H.C.-ion
6 21.5 25.2 1.76 0.2298990
17 22.6 \$\$\$\$ \$\$\$\$\$\$
12 24.1 25.0 1.80 0.0148568

Co.HY boring24

T 116N R 73W S 13bbh
 sand at26 1.00thick
 depth % moist sat % B.D. H.C.-inh
 6 17.9 \$\$\$\$ \$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$
 16 21.1 \$\$\$\$ \$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$

Co.HY boring25

T 115N R 72W S 11ccc
 sand at23 1.00thick
 depth % moist sat % B.D. H.C.-inh
 31 18.0 18.3 1.99 0.0000060

Co.HY boring26

T 115N R 72W S 13aad
 sand at26 0.00thick
 depth % moist sat % B.D. H.C.-inh
 21 19.3 19.4 1.95 0.0000093
 6 19.0 \$\$\$\$ \$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$
 16 19.8 \$\$\$\$ \$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$
 31 14.2 \$\$\$\$ \$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$
 4 17.7 18.0 1.99 40.8000000

Co.HY boring27

T 112N R 72W S 25bbh
 sand at15 2.00thick
 depth % moist sat % B.D. H.C.-inh
 10 5.9 \$\$\$\$ \$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$

Co.HA boring28

T 112N R 69W S 24c1c
 sand at3 1.00thick
 depth % moist sat % B.D. H.C.-inh
 11 25.3 25.7 1.74 0.0000516
 16 7.5 7.9 1.93 40.3000000

Co.HA boring29

T 112N R 68W S 30aaa
 sand at2. 1.00thick
 depth % moist sat % B.D. H.C.-inh
 32 18.8 19.4 2.00 0.0000241
 7 17.6 18.5 2.02 0.0002333

Co.HA boring30
 T 112N R 68W S 18
 sand at0 0.00thick
 depth % moist sat % B.D. H.C.-iph
 31 19.2 19.1 1.99 0.0000186
 17 20.8 21.0 1.94 0.0006923
 12 19.0 20.5 1.96 0.0253776

Co.HA boring31
 T 111N R 67W S 30bbc
 sand at0 0.00thick
 depth % moist sat % B.D. H.C.-iph
 17 20.7 20.5 1.93 0.0000098
 12 22.2 22.4 1.90 0.5818710
 7 19.6 20.7 1.96 0.0000899
 17 22.5 23.3 1.80 0.0000000
 22 19.7 20.3 2.00 40.8000000

Co.HA boring32
 T 111N R 67W S 02bcc
 sand at27 0.00thick
 depth % moist sat % B.D. H.C.-iph
 12 17.7 21.0 1.90 0.0038374
 16 13.2 18.5 1.96 0.0000099

Co.HA boring33
 T 111N R 67W S 043dd
 sand at0 0.00thick
 depth % moist sat % B.D. H.C.-iph
 11 19.7 20.9 1.86 0.5762220

Co.HA boring34
 T 113N R 67W S 16ddj
 sand at0 0.00thick
 depth % moist sat % B.D. H.C.-iph
 7 27.0 27.3 1.68 0.0030058
 16 20.6 21.2 1.94 0.0000576
 26 18.8 19.0 1.95 0.0001584
 21 19.1 19.6 1.95 40.8000000
 30 19.3 19.4 1.97 40.4000000

Co.HA boring35
 T 113N R 67W S 27cbb
 sand at3 0.00thick
 depth % moist sat % B.D. H.C.-iph
 6 21.8 22.0 1.38 0.0442523
 16 21.9 22.0 1.88 40.9000000

Co.HA boring36

T 113N R 69W S 24444

sand at16 0.00thick

depth	% moist	sat %	B.D.	H.C.-inh
6	16.1	21.5	1.81	0.0584991
21	18.8	19.2	2.01	0.0000124
26	18.9	19.3	1.98	0.0000232
12	18.2	18.8	1.97	0.0000269
31	18.6	18.9	1.90	0.0001555
16	20.3	21.6	1.90	0.0000000

Co.HA boring37

T 113N R 69W S 13444

sand at2. 2.00thick

depth	% moist	sat %	B.D.	H.C.-inh
11	18.3	19.2	1.90	0.0000704
21	18.9	18.9	1.99	0.0000231
31	23.5	23.5	1.83	0.0000870

Co.HA boring38

T 116N R 67W S 34444

sand at18 0.00thick

depth	% moist	sat %	B.D.	H.C.-inh
10	2.5	2.5	0.02	0.0000200

Co.HA boring39

T 116N R 67W S 34444

sand at15 0.00thick

depth	% moist	sat %	B.D.	H.C.-inh
22	15.3	15.6	2.07	0.0000116

Co.HA boring40

T 116N R 68W S 36444

sand at25 0.00thick

depth	% moist	sat %	B.D.	H.C.-inh
10	2.5	2.5	0.02	0.0000200

Route #4 Box 253
Huron, S. Dak. 57350
September 22, 1981

Senator Frank Murkowski, Chairman
Senate Water and Power Sub-Committee
3104 Dirksen Senate Office Building
Washington, D.C. 20510

Dear Sir:

We are writing to you in opposition to SB 1553 and we would like the following to be submitted for the record.

We are opposed to irrigation projects which are not cost efficient. Figures submitted by the Bureau of Reclamation have been so padded that the benefits of projects such as Oahe and CENDAK sound very rosy, indeed. But, the Government Accounting Office, in a news story printed in the 1981 Harvest Issue No. 41 of Farmstead Magazine, (page 16), states that "When GAO analyzed the increases in net income possible with full-cost water at the 7.5 percent interest, it found that costs associated with increasing yield using irrigation were greater than income production." In other related articles, the GAO has stated that irrigation projects funded by federal money are subsidized approximately at 85%. Why should the taxpayer assume this burden to produce crops that are already in oversupply? Then, when prices dip below the cost of production, they are clamoring for government support.

We are enclosing a news write-up of the Sub-Committee Hearing you chaired in Pierre, South Dakota on September 12. You will notice that there is very little mention of any opposition to this SB 1553. I have also enclosed two editorials from this same daily newspaper, the major one in this area, which shows the bias and prejudice prevalent in the published media. Opposition to economically unfeasible projects have never been able to get their side printed in this paper. They have not even been able to buy space, which they have tried to do on several occasions. Most people, unless they attend meetings and hearings, are not even aware of the many problems that have arisen. Many people, when they are finally made aware of the wild-life mitigation, cost-benefit ratio, land condemnation, etc. change their minds about supporting projects such as Oahe and CENDAK.

I served on the Beadle County FmHA board for 4 years. I was shocked at the number of irrigators in this county that received 3 and 5% disaster money. If irrigation is so great, and if it contributes so much to the economy of the local area, why does the taxpayer have to help support those who irrigate?

A supporter of the Oahe and GENDAK projects, and one who has expounded the benefits to the economy of irrigation projects because he has one, built his project largely from an EPA grant. The project began in 1969 to provide adequate wastewater treatment for the city of Mitchell. The wastewater now irrigates some 1,276 acres and handles the needs of a population of 17,000. But it still cost approximately \$5,052 per acre, most of it paid for by the taxpayers. Private individuals would never be able to make such a project pay off at current interest rates, and yet this individual says we have to have projects such as Oahe to benefit the economy.

I am enclosing some pictures on a separate enclosure that will show you some interesting facts regarding supporters of federally funded irrigation projects. Please submit them all for the record and be sure to vote NO on SB 1553.

Respectfully submitted,

Mr. and Mrs. Irving Wessel
Mr. and Mrs. Irving Wessel

Janklow: retain parts of Oahe

PIERRE, S.D. (AP) — The South Dakota congressional delegation's water development bill should be changed to allow modification of the original Oahe Irrigation Project authorization, Gov. Bill Janklow said Saturday.

"Let's stop Oahe where it's at," Janklow told Sen. Frank Murkowski, R-Alaska, chairman of the Senate Subcommittee on Water and Power. "Let's give ourselves the opportunity to work with you in Congress to turn it into something we like."

Despite others at the hearing who urged that the Oahe project be completely deauthorized to make sure unpopular parts of the project are not built, Janklow told the audience of about 300 that he wants to retain part of the authorization.

The governor said the various water interests in the state need to agree on the water bill and a modification to the Oahe authorization because they represent the state's last chance to get federal funding for water development.

"We're foolish if we think somebody is sitting around

Congress waiting to approve money for projects we can't agree on in South Dakota," Janklow said.

Saturday's hearing was held to obtain public testimony on a bill that would reauthorize the WEB domestic pipeline project and free \$1.9 million in WEB start-up money that was blocked by a congressional committee this spring.

Introduced by Sen. James Abdnor, R-S.D., and sponsored by the three other members of the state's congressional delegation, the bill also calls for a study of South Dakota water projects in lieu of the Oahe and Pollock-Herreid projects.

In addition, the bill would allow the Secretary of the Interior to cancel existing contracts on the Oahe Unit. It also would allow future water projects to take advantage of the low interest rates and low Bureau of Reclamation electric power rates included in the Oahe authorization.

Many South Dakota officials say the state is entitled to federal water assistance in return for the 500,000 acres of land flooded for Missouri

HEARING

(Continued from page one).

River mainstem dams built in the 1950s. The Oahe project, mired in politics and considered dead, is part of that payback.

But Tom Fischback, president of the United Family Farmers, said he wants the Oahe project completely deauthorized to make sure the project is never built.

Fischback and others said the state does not need to retain any part of the Oahe authorization.

Monday, June 15, 1981

Editorials

A going concern

We congratulate the CENDAK steering committee on the decision to reject a \$45,000 grant from the Oahe Conservancy Subdistrict to help finance a feasibility study for the CENDAK project.

Spokesman Jim Lewis said the committee decided to reject the assistance at this time because, in light of the depressed farm economy, it did not want to add another tax burden to subdistrict residents. He said the committee felt it could draw from its own financial resources for the study because of the tremendous interest and support of farmers and ranchers in the area and their willingness to contribute.

We suspect that there were also some strings attached to the grant which made it impossible for the CENDAK group to accept. But the rejection, for the reasons stated, is a refreshing approach.

So far, farmers in the six-county CENDAK area have paid sign-up fees for 397,000 acres of land and the sign-up has not been completed. That represents a powerful commitment. The CENDAK steering committee, which formally authorized a contract for the feasibility study last week, can

operate much more effectively without the encumbrance of answering to another board.

The CENDAK proposal has been popular since its inception. Beadle County, which got off to a late start, made up for lost time with a well-organized sign-up drive and has now matched Hand County for first place. Each now has 120,000 acres committed to the project. County leadership here has been excellent.

The action last week served as a notice that CENDAK is a going concern that is prepared to act on its own initiative and pay its own bill. That sort of an approach should convince skeptics of the seriousness of the leaders. It should also earn the respect of political leaders who might be called upon to help push the plan.

CENDAK has a lot of things going for it, including the local support that has been so convincingly demonstrated by the acreage sign-up. Steering committee members have spent a great deal of their own time and money in their home counties and in their committee assignments. That type of volunteer activity should be acknowledged and encouraged.

The organization is off to an excellent start. We hope they keep up the good work.

Editorials

Deserving plan

Chances for meaningful water development in Central South Dakota got two sizable boosts last week. One came in the form of legislative action which will permit individual counties to reshape conservancy subdistrict boundaries if local developments and desires require such change. The other came from the series of public hearings conducted by the Oahe Conservancy Subdistrict in Hughes, Hand, Hyde and Beadle counties.

Legislatures in recent years have been reluctant to tinker with the law which more or less cemented a county into a subdistrict once it was joined. Thus the progress of Senate Bill 177 which will permit counties to withdraw from a subdistrict and regroup or join another marked a notable change.

The permissive legislation which had the backing of the people in the southern half of the Oahe Conservancy Subdistrict picked up considerable statewide support. After passing the Senate on a 24-9 vote, opponents managed to have it tabled in a House committee. But that tactic occasioned only a slight delay. After a successful smoke-out effort, the House passed the measure on a 48-22 vote, a plurality almost as great as the one accorded the measure in the Senate.

Concurrently Oahe Conservancy Subdistrict-sponsored hearings in the southern tier of subdistrict counties were attracting large crowds of farmers who professed support for the CENDAK water development idea. The purpose of those hearings was to determine just how much local support there was for that plan. The response

must be described as overwhelming.

All of this does not mean that anyone has discovered a quick and easy method of moving huge quantities of Missouri River water onto Central South Dakota soil and into municipal water supply systems. There are all sorts of problems and financial hurdles to overcome before a workable plan of action will be produced. But it does mean that a large and enthusiastic group of irrigators and potential irrigators is finally being heard.

CENDAK supporters are led by a group of capable young farmers who understand the economic advantages of irrigation farming in a semi-arid area. They have a personal interest in the plan they espouse. They have a strong sense of direction and a positive approach. And the combination of all of these factors seems to have generated a great deal of local enthusiasm in the counties in which the project would operate.

The CENDAK plan is not an old plan warmed over as some opponents have charged. The dream of moving water from the Missouri River to the James is as old as statehood (100 years). But the idea of using some already constructed facilities to move that water along a route planned by the farmers whose lands would be crossed is an entirely new one.

CENDAK could become a key project for South Dakotans who have watched in frustration as their water resources continue to flow out of the state largely untapped year after year. It deserves careful study.



The corn field on the left is one that belongs to a young farmer who is signed up and working hard for the GENDAK irrigation project. Notice the weeds and grass as a result of poor tillage and cultivation. He has received disaster payments and 3 and 5% monies available through FmHA programs.



This is an irrigated field after only 4 years of irrigating. Land like this is classified as irrigable by the State and is signed up for the GENDAK project. It is hard like concrete and will not absorb water. A recent .50 inch of rain created lakes all over the field. Without expensive restoration, the land will be permanently ruined.



Below: These two pictures show our fields where we will pick a fair yield of corn and have cut enough silage to carry us through more than a year's feeding for cattle. You will notice the height of the corn and the lack of weeds and grass. All these fields received very nearly the same amount of moisture, less than 8 inches since Jan. 1, 1981, south of Huron, S. D. the 3rd driest location in the U.S. this year.

